The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 713.---Vol. XIX.] LONDON, SATURDAY, APRIL 21, 1849. [Price 6d.

Contract for Pig-Iron.

DEPARTMENT OF THE STOREKEEPER GENERAL OF THE NAVY, Somerset-place, April 20, 1849.

THE COMMISSIONERS FOR EXECUTING THE OFFICE OF LORD HIGH ADMIRAL OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND do hereby give Notice, that, on Tuesday, the 8th of May next, at One o'clock, they will be ready to TREAT with such PERSONS as may be willing to CONTRACT for SUPPLYING Her Majesty's Dockyards at Woolwich, Chatham, and Portsmouth with 1

SOFT MELTING PIG-IRON.

A distribution of the iron and a form of the tender may be seen at the said office. No tender will be received after One o'clock, on the day of treaty, nor any noticed, unless the party attends, or an agent for him, duly authorised in writing.

Every tender must be addressed to the secretary of the Admiralty, and bear in the left hand corner the words "Tender for Pig-Iron," and must also be delivered at Somerset Place, accompanied by a letter signed by a responsible person, engaging to become bound with the person tendering, in the sum of £400 for the due performance of the contract.

Stannaries of Cornwall—In the Vice-Warden's Court.

IN THE CONSOLIDATED CAUSES OF

CRAZE AND OTHERS v. FEGAN.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned consolidated causes, and bearing date the 8th day of February last, Order and Decree that a SALE be made of the ORES and HALVANS, and (if necessary) the ENGINES, MACHINERY, and MATERIALS, upon and belonging to WHEAL CURTIS MINE, in the parish of CROWAN, within the said Stannaries, under the direction of the Registrar of the Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the same Order or Decree.

Notice is hereby given, that, pursuant to the said Order or Decree, and with the consent and approval of William Brougham, Esq., the Master charged with the winding-up of the affairs of the Wheal Curtis Copper Mining Company, a PUBLIC AUCTION will be HELD at WHEAL CURTIS MINE aforesaid, on Tuesday, the 1st day of May next, at Eleven o'clock in the forenoon, for SELLING, either together or in lots, the 2

UNDER-MENTIONED

MINING MACHINERY AND MATERIALS—viz.:

ONE 70-inch cylinder STEAM-ENGINE, complete, 10-feet stroke in cylinder, 8-feet in shaft, with two boilers, about 32 tons; 29 16-inch pumps, 2 16-inch matching-pieces, 2 14-inch ditto, 1 15-inch working piece, clacks, 1 14-inch windbore, rod-plates, whim, whim axle, pulley stands, screwing stock, beam and scales, pulleys, air-machine, swing solar, set-offs, collar launders, buckets and prongs, water barrels, a quantity of lead ore, about 2 cwts. of powder, ladders, new and old timber, new slate, doors and windows of sundry buildings, miners' chests, together with sundry articles of

COUNTING-HOUSE FURNITURE, &c. &c.

For viewing the same, application may be made to Mr. Morriss, at the mine; and for further particulars (if by letter, pre-paid) to Capt. Evans, St. Agnes; or to Messrs. Wright, Smith, and Shepherd, 15, Golden-square, London, or Mr. Roberts, solicitors, Truro; or to Mr. Stokes, solicitor, Truro.

Dated Registrar's Office, Truro, April 18, 1849.

AT SHIPLEY, IN DERBYSHIRE.

TO ENGINEERS, MILLWRIGHTS, RAILWAY CONTRACTORS, BUILDERS, &c.

MR. G. O. BROWN has received instructions from I. T. Leather, Esq., who is about completing his contract on the Erewash Valley Railway, to OFFER for PUBLIC COMPETITION, BY AUCTION, on SHIPLEY WHARF and premises occupied by him, on Tuesday, May 1, 1849, a valuable and extensive collection of 3

RAILWAY PLANT:

Comprising TWO LOCOMOTIVE SIX-WHEELED ENGINES—viz.: One do. American built, with cylinders working outside, 12 inches diameter, 20-inch stroke; two driving wheels connected, 4 feet 8 inches diameter; four trailing wheels, 2 feet 6 inches diameter; boiler, 8 feet 3 inches long, 3 feet 8 inches diameter; 98 tubes, 8 feet 3 inches long; good copper fire box, water guage, taps, glasses, &c. &c.; and an excellent tender, with screw breaks, &c., complete.

ONE LOCOMOTIVE SIX-WHEELED ENGINE (made by Nasmyth, Gaskill, and Co., Manchester.) Two driving wheels connected, 5 feet diameter; four trailing wheels, 3 feet 7 inches diameter; inside cylinders, 12½ inches diameter, 20-inch stroke; boiler, 8 feet 3 inches long, 3 feet 8 inches diameter; 102 tubes, 8 feet 3 inches long; copper fire box, water guage, glasses, taps, &c., &c.; and an excellent tender, with screw breaks, complete.

ONE very superior 8-horse power HORIZONTAL STEAM-ENGINE, 10 inch cylinder; 2 feet 3 inch stroke, in excellent working condition, and boiler equally good, working a saw mill with upright frame, and 12 saws; also circular saw table, and six circular saws; saw mill shed, 26 feet 6 inches inside; engine house, 14 feet 6 inches by 7 feet 6 inches inside, covered with pan tiles; a good iron tank to supply the engine; engine stack, &c., complete.

A wood shed of new boards, containing about 1400 superficial feet.

One engine shed, standing at Long Eaton, containing about 2400 feet of deal boards; about eight cube yards of brickwork inside the shed; a well inside, containing brickwork 5 yards deep, 5 feet diameter; one pair smith's large vice.

A quantity of old brass; about 20 tons of old metal; several tons of old scrap iron.

An excellent double purchase crane standing on Shipley Wharf.

One pair double purchase setting legs.

A wood water tank, 10 feet 9 inches long, 5 feet 8 inches wide, and 3 feet 2 inches deep; with water tap and leather pipe, &c., &c., standing at about a quarter of a mile below Sandiacre: one pump; one brick well 7 feet in diameter; a quantity of battens and boards attached thereto; 8 upright posts to support water tank, and a wood cabin.

1170 fancy poles, 2 feet 6 inches long, 2½ inches by ¾ inch.

4 oak beams, 16 feet long, 12 inches square.

15 lots of boards, scantling, &c., suitable for collieries, &c.

About 20 lots of other hardwood poles, suitable for pit work.

425 excellent tramway plates, one yard each, extra strong.

One excellent cast-iron arch, 19 feet long, by 5 feet 3 inches wide, and 6 inches rise; made in 12 pieces, about 1 cwt. each.

150 four holed post for fencing.

4000 cube feet of excellent (new felled) ELM TIMBER, from 12 to 20 inches girth, in lots to suit purchasers.

15 powerful, young, active, seasoned CART or RAILWAY HORSES, and HARNESS, and one very superior HARNESS HORSE, 7 years old.

1 DOG CART, in excellent condition, together with numerous other implements connected with the trade.—*The Sale will commence at Ten o'clock on Shipley Wharf.*

Shipley Wharf is 7 miles from Alfreton, 11 miles from Derby, 9 miles from Nottingham, and 13 miles from Mansfield.

To view the lots, engines, saw mill, &c., apply to Mr. Jno. Kedger, Shipley.

CARMARTHENSHIRE.—A desirable FREEHOLD FARM, with STONE COAL and CULM SEAM, RICH IRON ORE, &c., near the Canal to Pembrey New Floating Harbour, and within a short distance of the South Wales Railway.

TO BE SOLD, BY AUCTION, on Thursday, the 3d of May, 1849, at the FALCON HOTEL, in the town of LLANELLY, at Three P.M. precisely, by order of a mortgagee, with power of sale, and subject to conditions, to be then produced, all that FARM, LANDS, and PREMISES, called 4

BRYNDIAS,

with an excellent DWELLING-HOUSE and OUTBUILDINGS, containing about 42½ acres of land, and possessing a right of common on Pembrey Mountain and Pinged Marsh; also the COAL and CULM and IRON MINE under the same, which is considered to be of the best quality, and may be shipped cheaper than any coal in the Vale of Gwendraith, being about 2 miles only distant from the shipping place; the whole may be worked with a small capital. David Lloyd, the tenant of the farm, will show the premises.

For particulars apply to Messrs. Barker and Bowker, No. 1, Gray's Inn-square, London; Mr. Watkins, solicitor, Feregate-street, Worcester; or to Mr. B. Jones, solicitor, Llanelly, Carmarthenshire (post-paid), where a plan of the estate may be seen.

SPEARNE CONSOLS MINE, ST. JUST, IN PENWITH.

TO BE SOLD, BY AUCTION, on Thursday, the 3d of May next, at Four o'clock in the afternoon, at the UNION HOTEL, in the town of PENZANCE, TWENTY (128ths) PARTS, or SHARES, in that excellent mine, known by 5

THE NAME OF THE

SPEARNE CONSOLS,

Situate between and adjoining the celebrated mines of Levant and Botallack, in the parish of St. Just.

Not a single share has changed hands in the Spearne Consols for these last four years, during which time good dividends amongst her fortunate adventurers have been regularly made, with every prospect of a steady increase for many years to come.

An inspection of the mine, by parties contemplating a purchase is anxiously courted by the proprietor.

Application may be made to the resident agent, or to Geo. Hext Bellringer, auctioneer, Penzance.—Dated April 14, 1849.

SCHOOL OF MINERALOGY, CHEMISTRY, AND GENERAL SCIENCE. 6

MESSRS. NESBIT'S ACADEMY,

No. 38, KENNINGTON-LANE, LAMBETH, NEAR LONDON.

In this SCHOOL, in addition to all the branches of a good education, EVERY FACILITY is AFFORDED for obtaining a knowledge of ANALYTICAL CHEMISTRY and NATURAL SCIENCE, as applied to the Arts, Manufactures, and Agriculture.

The pupils are practically taught in the Laboratories, which are fitted up with every essential for the most extensive chemical investigations.

Mr. Nesbit's works on Land Surveying, Mensuration, Gauging, Arithmetic, English Parsing, &c., may be had of all booksellers.

References.—Dr. D. B. Reid, F.R.S.E., &c., House of Commons, Westminster; R. Prosser Esq., C.E., Birmingham; J. L. Bullock, Esq., Editor of *Fresenius's Chemical Analysis*, Conduit-street, Regent-street; J. Gardner, Esq., M.D., Editor of *Liebig's Letters*, &c., Mortimer-street, Portland-place; and W. Shaw, Esq., Strand, London.

JAMES BOYDELL, LAND, MINE, AND MACHINERY VALUER, AND AGENT, 7

No. 54, THREADNEEDLE-STREET, LONDON,

HAS TO DISPOSE OF

A PATENT RIGHT for BUILDING VESSELS with IRON, on a principle which combines increased strength with greater economy of manufacture.

Also, ONE for the CONSTRUCTION of IRON ROOFS, on a like principle. A specimen of this may be seen as a roof covering one of the retort houses of the Birmingham and Staffordshire Gas Company, by permission of Mr. Clift, the engineer, at the works.

Also, ONE for IRON JOISTS and RAFTERS, and for a plan of joining large plates and sheets of iron.

Also, ONE for the AMALGAMATION of STEEL and IRON—in the progress of the manufacture of the latter, by which a great saving may be effected in the cost of making edged tools.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete, with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an unusual return to the purchasers of them.

Also, SOME COAL and IRONSTONE MINES, FREESTONE QUARRY, and a large FREEHOLD ESTATE.

Also, STEAM-ENGINES and MACHINERY, of all descriptions, and which he is enabled to offer at very moderate prices.

Particulars of the above may be had, upon application, at 54, Threadneedle-street.

TO ENGINEERS, BUILDERS, AND ARCHITECTS.

JAMES BOYDELL, 54, THREADNEEDLE-STREET, having been a very large manufacturer of machinery and irregular shaped iron, and having accomplished the rolling of some descriptions of the latter, thought by many to have been impracticable, will be happy to ASSIST any ENGINEERS, SHIPBUILDERS, and ARCHITECTS, in the planning of the details of what IRONWORK they may have occasion for, or bringing to perfection any invention in machinery, as well as procuring such materials for the purpose as they may require.

(DAY OF SALE POSTPONED.)

EXTENSIVE IRON-WORKS FOR SALE.—NEW FIELD OF BLACK-BAND IRONSTONE.—UPSET PRICE REDUCED.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, GLASGOW, upon Wednesday, the 25th day of April current —(*instead of the 11th, as formerly advertised*)—at One o'clock afternoon (if not previously disposed of by private bargain), 8

THE BLAIR IRON-WORKS,

belonging to the Ayrshire Iron Company, situated in the parish of Dairy and county of Ayr.—These works, which have been recently erected at an immense cost, consist of

TWO BLOWING ENGINES, FIVE BLAST-FURNACES, WORKMEN'S HOUSES, STEAM-ENGINES for working the minerals, together with UTENSILS at the pits, furnaces, &c., all in working order, and capable of producing upwards of 35,000 tons of pig-iron per annum.

One of the blowing engines, high-pressure, estimated at 90-horse power, was erected in 1841—the other, a condensing engine, was erected in 1847, and is estimated at 200-horse power, the latter being capable of blowing five furnaces, and both fitted up in the most substantial manner, and at present in good working condition.

The furnaces have been erected with the greatest care, and are fitted with air-heating apparatus of the most approved construction. The make of each furnace has generally averaged upwards of 150 tons of iron per week, and some of them have produced 180.—There are, besides the manager's house and store buildings, 187 workmen's houses, in a habitable state, attached to the furnaces and pits, and there are 20 partly built, which could be finished at a small additional outlay. There are also a new foundry, wright's shop, fire-brick work, smithy, &c.

The MINERAL FIELDS consist of COAL, IRONSTONE, LIMESTONE, and FIRE-CLAY, held in lease by the company at moderate fixed rents and royalties, all situated within easy distances of the furnaces, and for the most part have the advantage of railway communication.

The COAL FIELDS consist of several hundred acres, of which only a small portion has been wrought; several pits, fitted with good engines and machinery, are sunk to the coal, and partly in operation.

The IRONSTONE consists of the well-known BLACK-BAND, yielding about 3000 tons of calcined stone per acre, and it has been estimated that there are 300 acres, or thereby, still to work, *besides* about 200 acres, which, from borings just completed, it is ascertained also exists, as well as in adjoining lands, the minerals in which are still undisposed of. There is also a large extent of CLAY-BAND IRONSTONE, hitherto little wrought, but capable of yielding a large output. There are 15 pits, with excellent steam-engines, some of them in present operation, and others ready to resume working.

The LIMESTONE QUARRY is worked by open cast, and is connected with the works by railway.

The FIRE-CLAY is abundant, of excellent quality, and cheaply produced.

There is a large stock of ironstone on the ground, which can be got at a valuation, so that the works can be put into immediate operation, and having a connection with the Glasgow and Ayr and Ardrossan Railways, along which the produce has the privilege of conveyance at low rates, the present affords an excellent opportunity for parties entering into the iron trade. MALLEABLE IRON-WORKS.

Considerable progress has been made in the erection of extensive malleable works, immediately adjoining the pig-iron works, which will be sold either together therewith or separately.

Further particulars will be given on application to W. D. Starling, Esq., 13, Change-alley, Birchin-lane, London; or to Mr. Brown, 35, or to Mr. Watson, 33, St. Vincent-place, Glasgow.

N.B.—The purchaser of these works has an opportunity of at the same time acquiring the mansion-house and lands of Pitcon, immediately adjoining.

Glasgow, April 4, 1849.

(DAY OF SALE POSTPONED.)

VALUABLE ESTATE AND MINERAL FIELD IN AYRSHIRE FOR SALE.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, Queen-street, Glasgow, upon Wednesday, the 25th day of April current—(*instead of the 11th day of April, as formerly advertised*)—at One o'clock afternoon, unless previously disposed of by private bargain, all and whole the 9

LANDS AND ESTATE OF PITCON,

Extending to about 216 acres, imperial measure, as more particularly described in former advertisements; together with the MANSION-HOUSE, and OFFICES and GARDEN thereto belonging; and the whole MINERALS and METALS in the said Lands, excepting these 8 acres, or thereby, Scotch measure, now belonging to the Glengarnock Iron Company, of their presently-working seam of ironstone in the said Lands; and also excepting the Pitcon Railway and Branches, in so far as the same are within, and pass through, the said lands.

The MANSION-HOUSE is in good order and repair, and has attached to it a set of suitable and commodious offices, with walled garden, shubbery, and pleasure ground; and the whole are well enclosed.

The LANDS, let under lease, extend to about 140 acres Scotch or thereby, and are at present held by a respectable tenant, at a surface rent of 490*l.* sterling per annum. The farm steading is in good order and repair.

The MINERALS, comprising the most valuable description of ironstone, extend to about 140 acres still unwrought, and are held upon lease by the Ayrshire Iron Company. Upon a moderate calculation, the black-band yields about 3000 tons calcined ironstone to the imperial acre. There are, besides, several seams of Coal and other Minerals in the Lands.

This estate is situated near to the village of DALRY, at which there is a station upon the line of the Glasgow, Paisley, and Ayr Railway, and in the immediate neighbourhood of the Ayrshire Iron Company's Works, with which it is connected by railway communication, and will, in consequence, form a most desirable and profitable investment to the purchaser of the Ayrshire Iron Company's works (the Blair Iron Works), which, along with the benefit of the mineral lease of Pitcon, are advertised to be sold, by public roup, at the same time and place with this estate.

The public and parish burdens payable from the estate are small.

For further particulars, application may be made to M'Clelland and M'Kenzie, accountants, 128 Ingram-street, Glasgow,; Robert M'Cowan, accountant, 17 Gordon-street, there; Knox and Findlay, writers, 29, St. Vincent-place, there; James M'Cosh, writer, in Dalry; or to Douglas and Ranken, writers, 81, St. George's-place, Glasgow, in whose hands the articles of roup and title deeds, and a plan of the estate and mineral workings, may be seen.—Mr. M'Cosh will give directions for the lands being pointed out, and the mansion-house, offices, and garden, being shown to inquirers. BOGLE & CO., Auctioneers.

Glasgow, April 4, 1849.

CORNWALL—TYWARNHAILE MINES.

IMPORTANT AND VALUABLE COPPER MINES TO BE LET, BY PRIVATE CONTRACT, comprising the extensive SETTS formerly 10

KNOWN AS

UNITED HILLS, WHEAL CHARLES, and
SOUTH TOWAN, WHEAL FANCY,

belonging to the Duchy of Cornwall, in the parish of SAINT AGNES.—These mines having been surrendered to the Duchy by the late lessees, during the extreme pressure of the latter part of the year 1847, have since been placed in good working order, and are yielding large and increasing returns. They are now to be leased, at a moderate rate of dues, for a term of 21 years.

An arrangement can be made for putting the lessees of the Tywarnhaile Mines in possession of the adjoining setts of Wheal Sparrow, West Wheal Sparrow, Basset's United Hills, Wheal Clarence, and Wheal Lydia, the property of the representatives of the late John Basset, Esq.

Proposals will be received at the Duchy of Cornwall Office, Somerset House; and any further information may be obtained by application there, or to R. Taylor, Esq., Falmouth.

Duchy of Cornwall, Somerset House, Feb. 20, 1849.

TO FOUNDERS AND MALLEABLE IRON MANUFACTURERS, BUILDERS, AND CONTRACTORS.—The directors of the YORK, NEWCASTLE, AND BERWICK RAILWAY COMPANY will meet at their office in York, on Monday, the 30th day of April, 1849, for the purpose of RECEIVING TENDERS for the EXECUTION of the CAST and MALLEABLE IRON-WORK required for the SHED and ROOF of the CENTRAL STATION at NEWCASTLE-UPON-TYNE. 11

Also, for BUILDING a small STATION-HOUSE at the Half-Moon-lane, GATESHEAD, and another at the east entrance of NEWCASTLE.

Plans and specifications of the various works are to be seen at the office of Mr. Dobson, architect, Newcastle.

Tenders to be delivered to the secretary, at York, before Ten o'clock in the morning of the 30th inst.

GEORGE HUDSON, Chairman of the Board of Directors.

York, April 10, 1849.

WANTED,—A MANAGING AGENT for a LEAD and COPPER MINE in CORNWALL, employing 300 hands: he must be of intelligence, respectability, and have good practical mining knowledge.—Letters, stating all particulars of age, where and in what capacity last engaged, with references as to competency, &c., to be addressed "Mr. W. Trenery, Mining Broker, 9, St. Michael's-alley, Cornhill, London."—April 20, 1849. 12

IRON CRANES FOR SALE.—Several 2-ton REVOLVING MAST CRANES, of first-rate quality and modern construction, may be seen, and price and particulars given, on application to Mr. Alexander Reid, Monument Chambers, 14, Fish-street-hill. 13

STEAM-ENGINE WANTED.—Any person having FOR SALE a SECOND-HAND CONDENSING STEAM-ENGINE, of from 30 to 35-horse power, in complete and good condition, suitable for the purpose of winding coal and pumping water, may hear of a PURCHASER on application to Mr. G. Feare, Timsbury Coal-Works, near Bath. 14

Timsbury Coal-Works, April 21, 1849.

DUISBURG IRON-WORKS AND MINES, *IN WESTPHALIA, CLOSE TO THE RHINE.* 15

Managed in England according to the principles of the "Cost-book System," and in Prussia as a *Société in Commandite*, under laws limiting the liability of the shareholders to their personal subscription.

Company's Offices, 28, Moorgate-street, City.

METALLURGICAL ASSAYING AND ANALYSIS, on the most reasonable terms, by ALFRED SENIOR MERRY, 16

SHERBOURNE-STREET, BIRMINGHAM.

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.: Great Devon Consols, Condurrow, East Wheal Rose, Wheal Seton, South Wheal Frances, Treviskey, Trethellan, Mary Anne, Trelawny, Tamar, Tincroft, St. John del Rey, Stray Park, and Bedford Mines. 17

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities. 18

MINING OFFICES, No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON.—Mr. RICHARD THOMAS (who has had 20 years' experience as a mining agent in London) OFFERS his SERVICES in the PURCHASE and SALE of MINE and OTHER SHARES, on commission. Purchases in many valuable mines may now be made at unprecedently low prices. The fullest information given (without charge) relative to mining investments and operations.

N.B.—R. T. has now ON SALE a limited number of SHARES in an undertaking offering unusual advantages, situated in one of the best mining districts in Cornwall. Full particulars will be furnished on application. 19

MR. JAMES STRIDE, MINING AGENT, AND DEALER IN SHARES, 27, *SPRING-GARDENS, LONDON.* 20

JAMES LANE, MINING SHARE DEALER, 80, *OLD BROAD-STREET, LONDON.* 21

ANGLO-MEXICAN MINT OFFICE, 5, Broad-street-buildings, April 20, 1849.—Notice is hereby given, that the ANNUAL GENERAL MEETING of shareholders in this company will be HELD at the office, as above, on Tuesday, the 1st day of May next, when one director will be elected in the place of H. W. Schneider, Esq., who goes out by rotation, but is eligible for re-election, and will be proposed accordingly.—The chair to be taken at One o'clock precisely.

G. B. LONSDALE, Secretary. 22

BLAENAVON IRON AND COAL COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders of this company will be HELD at their offices, Pancras-lane, London, on Friday, the 27th of April next, at One o'clock precisely, when the accounts and transactions of the past year will be laid before them. By order of the board,

Offices, 4, Pancras-lane, London, March 30, 1849. JAMES BOOTH, Secretary. 23

MEXICAN COMPANY.—The directors hereby give Notice, that the ANNUAL GENERAL MEETING of proprietors in this company will be HELD at the office of the company on Thursday, the 3d of May next, at One o'clock precisely, in conformity with the Deed of Constitution of the company.

32, Great Winchester-street, April 20, 1849. J. M. MAUDE, Secretary. 24

WEST WHEAL JEWEL MINING ASSOCIATION.—Notice is hereby given, that the ANNUAL GENERAL MEETING will be HELD at the company's office, as under, on Monday, the 14th day of May next, at Twelve for One o'clock precisely. WILLIAM NICHOLSON, Secretary.

57, Old Broad-street, April 14, 1849. 25

CAMBORNE CONSOLS MINING COMPANY.—NOTICE OF CALL.—Notice is hereby given, that the directors have this day resolved that the subscribers, or shareholders, in this company PAY, and they are hereby required to pay, on or before the 21st day of April next, into the bank of Messrs. Praed and Co., 189, Fleet-street, London, a CALL of ONE POUND upon each and every share held by them in this company; and that, pursuant to Art. 116 of the Company's Deed of Settlement, all and every share, or shares, upon which the said call of £1 per share shall not be paid within 14 days after becoming due, will be subject to absolute forfeiture.

No payment on account of the aforesaid call will be received by the company's bankers without a special order, which may be obtained on application to the secretary, at the company's offices, 29, Poultry, with whom the present certificates must be deposited, to be exchanged for share certificates of £6 paid.

By order of the board of directors,
TUCKER & STEVENSON,
Sun Chambers, Threadneedle-street,
Solicitors to the Camborne Consols Mining Company.

London, this 19th day of March, 1849. 26

DRAKE WALLS MINING COMPANY.—At the Annual General Meeting of the shareholders in this company, held at 44, Finsbury-square, on the 12th inst., PETER STAINSBY, Esq., in the chair,

The following resolutions were passed unanimously:— 27

That the reports and accounts now submitted be received, adopted, and entered in the company's cost and transfer-book.

That the thanks of the shareholders be presented to the chairman and directors for their judicious management of this company's affairs, and for their comprehensive and lucid report.

That the thanks of this meeting be presented to Capt. Floyd for his careful and satisfactory report of this company's property.

TINCROFT MINING COMPANY.—At the Annual General Meeting of the shareholders in this company, held at the offices, 44, Finsbury-square, on the 10th inst., the following resolutions were passed unanimously:— 28

That the reports and accounts now submitted be received, adopted, and entered in the company's minute-book.

That the best thanks of this meeting be presented to the chairman and directors for their zealous, able, and successful management of this company's property, and for their constant and anxious attention to the shareholders interests.

Resolved,—That the shareholders of this company are desirous of expressing, by the present resolution, their satisfaction with Capt. Floyd and the subordinate agents of the company in the working of the mine.

PORTER'S PATENT CORRUGATED IRON BEAMS, GIRDERS, and FIRE-PROOF FLOORS.—These BEAMS and GIRDERS are about 30 per cent. lighter, and 20 per cent. cheaper, than any others of wrought-iron.—The FIRE-PROOF FLOORS, although not more costly than those of cast-iron, with brick arches and concrete, give greater security from fire, with less than one-tenth of the weight.—MANUFACTORY—IRON BUILDING & ROOFING WORKS, SOUTHWARK. *OFFICE*—2, *ADELAIDE-PLACE, LONDON-BRIDGE, CITY.* 29

THE GLASS TRADE ON THE TYNE.—Notwithstanding the depressed state of this manufacture for a considerable period, particularly the crown glass, it would appear that it has not yet arrived at the worst. We understand that out of the numerous firms formerly engaged in the window-glass trade, two only remain; and these are carried on but to a limited extent, and in a very languid manner. The extensive works of Sir Matthew White Ridley, and Co., which were carried on successfully for above a century, have been suspended for several months, and there is no prospect of their being resumed. Indeed, with glass of a fair quality, at about 1s. 8d. a "table," it may become a question with those manufacturers who still remain such, even to continue doing their present limited amount of business. As for the flint glass, the business is equally bad—the pressed, which employs fewer workmen, seems to be fast superseding the blown glass; for, with the exception of about two houses, the former manufacturers have abandoned the business. The cause of the present depressed state of the trade is attributed to various causes, none of which to us appears satisfactory. —*Newcastle Guardian.*

THE "GOLD DIGGINGS."—An attorney, who had shouldered the spade and pick-axe, has returned to his desk at San Francisco, and issued an advertisement offering to collect debts in "any portion of America." We wonder, when he was about it, that he did not embrace the other three quarters of the globe. But perhaps he thought them too insignificant! The late editor of the *Star*, another deserter from the "diggings," also resumes his residence in San Francisco, but not as one of "the best possible instructors" of the public—he now turns his hand to clockmending! Then, again, there is the editor of the *Californian*. He, it seems, has been to the gold country once, and threatens to go back again, if, having revisited San Francisco, the inhabitants do not make it worth his while to remain. It is likely, however, that his paper will prove a profitable "spec," a gold-hunter having written to him to say that he would give "half an ounce of pure gold" for a copy of his "valuable paper," and begging him to send 100 copies by every opportunity! Who would remain in England to sell newspapapers at 6d., when they are quoted in California as worth their weight in gold?

TURNPIKE TRUSTS.—An abstract of the general statements of the income and expenditure of turnpike trusts in England and Wales, during the year 1846, shows the former to have amounted to 1,384,498*l.*, and the latter to 1,378,352*l.* The total debts amounted to 8,424,356*l.*, and the total assets to 413,816*l.*

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Asiatic—5, New Burlington-street	2 P.M.
	Antiquaries—Somerset-house	2 P.M.
MONDAY	Geographical—3, Waterloo-place	8½ P.M.
	Medical—Bolt-court, Fleet-street	8 P.M.
TUESDAY	Medical and Chirurgical—53, Berners-street	8½ P.M.
	Civil Engineers—25, Great George-street	8 P.M.
	Zoological—11, Hanover-square	9 P.M.
	Syro-Egyptian—71, Mortimer-street, Cavendish-square	7½ P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
	Microscopical—21, Regent-street	7 P.M.
	Ethnological—17, Saville-row	8 P.M.
THURSDAY	Royal Somerset-house	8½ P.M.
	London Institution—Finsbury-circus	7 P.M.
	Royal Society of Literature—St. Martin's-place	3 P.M.
	Numismatic—41, Tavistock-street, Covent-garden	7 P.M.
FRIDAY	Royal Institution—Albemarle-street	8½ P.M.
	Philological—London Library, 12, St. James's-square	8 P.M.
SATURDAY	Royal Botanic—Inner Circle, Regent's Park	3½ P.M.
	Westminster Medical—17, Saville-row	8 P.M.

GEOLOGICAL SOCIETY.

MARCH 21.—SIR C. LYELL (President) in the chair.

The Rev. E. Prout, J. Bentley, Esq., and Lieut.-Col. Reid were elected Fellows.—The following papers were read, "On Tylostoma, a proposed Genus of Gasteropodous Molluscs," by Daniel Sharpe, Esq. The shells were obtained from the cretaceous beds of Portugal, and were considered by the author as presenting certain common characters distinguishing them from other genera, and entitling them to be classed together.

"Observations on the Geology of a portion of Asia Minor, including parts of Galatia, Pontus, and Paphlagonia," by W. J. Hamilton, Sec., G.S. The author commenced by remarks on the observations of M. P. Tchihatcheff, communicated to the Society at a former meeting, with the view of showing that he and his companion, Mr. H. E. Strickland, had discovered numerous palæozoic fossils on the Giant's Mountain, opposite Therapia, near Constantinople, and of explaining why this formation was then called Silurian, whereas it now appears probable that it belonga to the Devonian group. He then stated that he had already some years ago pointed out the existence of nummulitic limestone in the north-eastern parts of Anatolia, in the province of Pontus and Galatia, in the immediate vicinity of the Kizil Imak, *asc.* Halys; that he had described the nummulitic limestone as being overlaid by the red sandstone formations of that country, with which the mines of rock salt are associated; that he had stated that this red sandstone contained pebbles of Scaglia limestone, and that consequently it must have been of a more recent age than the cretaceous formation. He then proceeded to describe the geological features of those portions of Pontus, Paphlagonia and Galatia, which had come under his observation. They are as follows:—1. Igneous rocks; these are of various kinds, penetrating, uplifting, and disturbing the superincumbent stratified beds in every direction. They occur in every portion of the district under consideration, occasionally extending over large areas, and in other places occurring merely as isolated patches.

2. Stratified rocks; these are classified by the author in the following manner.—1. Crystalline limestone varying in its degrees of crystallisation, and associated with micaceous and talcose schists and sandstones, penetrated by veins of quartz.—2. Semi-crystalline limestone, resembling Scaglia, with beds of schist.—3. Nummulitic limestone.—4. Red sandstone formation, inclosing subordinate and subsequently deposited beds of rock salt.—5. Gypseous and sand formation.—6. Recent tertiary deposits, resembling the Aralo-Caspian brackish water limestone.—7. White chalky limestone, with freshwater shells. Organic remains are very rare. They seem to be almost entirely absent in the two first-mentioned formations; and the author admits the possibility of future examination showing that there is no real distinction between these two formations. One of the most remarkable features in this district is the occurrence of deposits of horizontally stratified rock salt, in hollows on the upturned vertical edges of the red sandstone formation—and the coincidence with what is known in other countries of the occurrence of rock salt in immediate connection with the red sandstone beds associated with red and grey marl and sandstone conglomerates. From the limited extent and elevated position of these deposits of rock salt, the author is not inclined to attribute their formation to the desication of a pre-existing continent. For if so, why should they be confined to the red sandstone formation? He suggests as an hypothesis the possibility of their being caused by springs depositing in these hollows saline matter produced by chemical or volcanic action in the red sandstone itself. The author also describes the different localities in which the other formations were observed; but considers it premature in our present state of knowledge to attempt any general classification of the rocks which, constituting the mountain chains of Asia Minor, have been upheaved and disturbed by the numerous igneous outbursts so prevalent in that country.

INSTITUTION OF CIVIL ENGINEERS.

APRIL 3.—WILLIAM CUBITT, Esq. (Vice-President), in the chair.

The discussion on Mr. Browne's "Account of the Groynes at the New Harbour at Sunderland," was continued throughout the meeting. At the monthly ballot, the following candidates were duly elected:—Messrs. W. B. Clegram, J. Fenton, J. Matthew, and W. Radford, as members; the Right Hon. the Earl of Lovelace, W. G. Armstrong, J. Chubb, J. Frances, Sören Hjorth, and W. Piper, as associates

APRIL 17.—R. STEPHENSON Esq, M.P. (Vice-President), in the chair.

The paper read, was "On an application of certain Liquid Hydrocarbons to Artificial Illumination," by Mr. C. B. Mansfield, B.A. The paper first noticed, that liquid hydrocarbons had been comparatively little used for the production of artificial light; and that, in the instances in which they had been applied, their liquidity, and not their evaporability, had been turned to account. In the use of the common volatile oils, the excess of carbon in their composition was the great difficulty; but when that was surmounted, that excess became an actual benefit. There were two methods of rendering this carbon efficient as "light fuel," when advantage was taken of the volatility of the substances; one was, to cause the vapour, as it escaped from a jet, to mix rapidly with the air. The other, to mix the vapour, before combustion, with other gaseous matters containing less carbon. The adoption of the first of these was instanced in Holliday's recently patented naphtha lamp. The second, consisted of the new arrangements described in the paper. This principle was carried into practice in two ways. The first (which was illustrated by a lamp that was burning on the table) was effected by mixing the hydrocarbons with some other inflammable spirit, containing very little carbon. The mixture was described as being made in certain definite proportions, which ensured a perfectly white light, and from which any deviation would result in a flame of inferior quality—pale, if the hydrocarbon were deficient—smoky, if the mixture were poor in spirit. The ingredients most accessible in this country were stated to be, wood, spirit, and a volatile oil from coal naphtha, in the proportions of two-thirds of the former to one-third of the latter. Alcohol and oil of turpentine had been similarly used on the continent, though the former was too dear for use in England.

The other adaptation of the same principle, and that which it was the chief object of the paper to describe, was the dilution of the hydrocarbon vapours with permanent gases of inferior, or even of no illuminating powers. That application might be called the naphthalization of gas, or the gasisation of naphtha, according as its main object was to enhance the services of the gas, or to utilize the liquid—the latter was the object of the new proposal described in the paper. The former had been already accomplished by preceding inventors. The first invention was that of Mr. Donovan in 1830, who proposed to confer illuminating power on gases that were inflammable, but not luminiferous, by charging them with the vapour of hydrocarbons; but, from the want of a sufficiently volatile fluid, he was compelled to have a reservoir close to every burner. The next application was that of Mr. Lowe, who increased the light obtained from coal gas by passing it over surfaces of naphtha. Mr. Beale's air light was then noticed; its object was to use hydrocarbons for illumination, by passing a current of air through vessels containing those liquids. There existed, however, the same obstacles to this plan as to that of Mr. Donovan—viz.: the heat required to evaporate the only liquid hydrocarbons then accessible. The paper represented that at length the difficulty had been solved, by the discovery of a liquid hydrocarbon, as volatile as spirits of wine, but containing sufficient carbon for the most perfect light, and obtainable in any quantity. This hydrocarbon was procured from coal tar, and was called "Benzole." Its volatility was such as to enable it to naphthalize atmospheric air as effectually as ordinary naphtha did coal gas.

The system proposed by the author (which was illustrated in the room by a working apparatus), consisted in conducting a stream of almost any gas, or even of atmospheric air, through a reservoir charged with benzole, or some other equally volatile hydrocarbon, the gas or air so naphthalized being then conducted like common coal gas through pipes to the burners. It was stated, that the system was applicable on any scale, from the dimensions of town gas works to the compass of a table lamp. In the apparatus exhibited, a small gas-holder, filled by a pair of bellows, supplied common air through pipes. The gases formed by passing steam over red-hot coke would answer well for this purpose, and it would depend on local circumstances whether this mode of generating the current would be preferable to the expenditure of the mechanical force necessary for driving atmospheric air through the pipes. Pure oxygen charged with the vapour would explode on ignition; it was, therefore, suggested that this might prove a useful source of motive force. It was, however, stated to be difficult to form an explosive mixture of the vapour with common air. By decomposing water with the voltaic battery, naphthalizing the hydrogen with benzole, and burning it with the aid of the equivalently liberated oxygen, a simple light of intense power might be obtained. The system was shown to be a great simplification of the ordinary system of gas-lighting, as no retorts, refrigerators, purifiers, or meters were required, and the products of combustion were as pure as those from the finest wax. It was expected that the elegance of the material, and the simplicity of the apparatus, would induce its introduction into buildings and apartments where coal gas was not now considered admissable.

The apparatus and conditions necessary for the success of the method were, a flow of cheap gas, or of air, driven through pipes by any known motive power, and a reservoir of the volatile spirit through which the main pipe must pass in some convenient part of its course, these pipes and reservoirs being protected from the cold. It was stated, that though the liquid did not require to be heated above the average temperature of the air, it was liable to become cooled by its own evaporation, so as to require an artificial supply of warmth. This was readily effected by causing a small jet of flame of the gas itself to play upon the reservoir, and by a simple contrivance, called a "Thermostat," by which the flame was shut off when necessary, the temperature could be made self-regulating, so as never to rise above or fall below a proper degree. The cooling due to the evaporation, would, of course, be inversely proportionate to the quantity of liquid in the reservoir. If atmospheric air was used as the vehicle for the vapour, the jet holes in the burner, from which it escaped for combustion, must be slightly larger than those for coal gas. Some burners, contrived for the purpose of accurately adjusting the size of the orifice to the quantity of luminiferous matter escaping, were exhibited and described; they were made so, that by moving a part of the burner, any required quality of flame, from lightless blue to smoky, could be obtained, there being a medium point at which the most perfect brilliancy was arrived at. The burners would answer equally well for coal gas, though that material could not, even by them, be made to evolve so white and pure a light as that from benzole vapour. In conclusion, some data were given on which a calculation of price was founded.

It was stated, that a gallon of benzole, of the degree of purity requisite for the purpose, would cost about 2s. 6d.; to this, the expense of the air current and the interest of the original outlay on apparatus was to be added. This the author presumed would not raise the cost to more than 4s., for the consumption of a gallon of benzole. It was stated, that 1 cu. ft. of that liquid would give a light equal to four wax candles, of four to 1 lb., for one hour; or one gallon for about 120 hours. It was inferred, that a gallon of this material was equivalent to about 1000 cubic feet of coal gas. Finally, for comparison with coal gas at a distance from the mines, it was stated, that while to produce 1000 cubic feet of gas, at least 200 lbs. of coal must be transported, one gallon of benzole did not weigh more than 7 lbs.; this, in carriage, would give benzole an advantage of 28 to 1 over coal as a source of light. In the discussion which ensued, high encomiums were passed upon the talent and patient labour exhibited by Mr. Mansfield, in the investigation of this important subject, which promised to lead to most remarkable results, as an extension of gas lighting to positions where it had not before been considered applicable.

The paper announced to be read at the meeting of Tuesday, April 24, was "On Locomotive Engines," by Mr. T. R. Crampton, Assoc. Inst. C.E.

SOCIETY OF ARTS.

On Wednesday evening last, Mr. FREDERICK PELLAT, of the Falcon Works, Holland-street, Blackfriars, delivered a very interesting and highly instructive lecture on the supposed influence of oxygen on the colour of flint glass. Being himself a manufacturer, he had something more than theory to ground his remarks upon; and all his observations were evidently drawn from practical experience, aided by scientific knowledge. He commenced by explaining the materials employed, and stating that, however clear glass may appear to be, it never is, or can be, perfectly transparent or devoid of colour. The tint changes during the process of manufacture and the alterations, are, by most persons engaged in making glass, attributed entirely to the materials used. Mr. Pellatt combatted that notion; and gave it as his opinion, that the variations were to be traced to the degrees of oxidation of the mass. He adduced many facts in support of his conviction, stating that lead was one of the preparations generally introduced; but the presence of the metal was not of so much importance as was the quantity of oxygen with which it was combined. The same amount of lead as litharge, would give a different hue to that which the like quantity of the peroxide would produce; and a stick introduced into the heated mass, and stirred about, would, as it become charred, deoxidise the molten glass, giving to it a particular hue. In further proof of the correctness of his views, Mr. Pellatt informed his listeners that the colour of glass was affected by simple exposure to the atmosphere; and specimens of the change it had undergone were exhibited.

We cannot pretend to give even an outline of the many valuable facts the gentleman who read the paper brought forward, but we may state that he, to our satisfaction, perfectly established the soundness of his views. Without pretending to be scientific, he made science bear upon and illustrate his points, and his observations had the rare merit of being brief and clearly expressed.

When the paper was finished, a very instructive discussion ensued, in which Messrs. Wilson, Christie, Claudet, Varley, Webster, and the brother of the gentleman who read the discourse took part. During this the danger of introducing too much soda, or potash, into glass was forcibly indicated, it being shown that an excess of alkali not only deteriorated the endurance of its brilliancy, but also might occasion it to actually crumble, or decay. An instance was mentioned where a servant had been discharged for having destroyed various articles which, through the fault of the manufacturer, were so made as to be perishable. It was likewise stated, that where the alkali is in excess, the plate, however well it may be polished, in a few hours becomes covered with a kind of mist, which Mr. Varley assured the audence he had, by the application of the microscope, discovered to consist of minute crystals, probably salts of potash, or of soda.

Some conversation ensued as to whether the presence of these crystals depended upon efflorescence, or exudation, but, in the end, that nice point seemed by general consent to be left an open question, needing further investigation.

Towards the conclusion of the debate, which was conducted throughout with spirit, intelligence, and perfect good temper, one gentleman, whose name we did not catch, threw out a hint which, though it did not seem to accord with the ideas of the great majority of those present, we nevertheless think afforded the true explanation of the phenomenon to which it referred. The beautiful red glass imported into this country is known to be composed of certain ingredients; but with the same materials our manufacturers cannot produce it. In England coal is employed to heat the furnace, but abroad wood alone is used; and to these circumstances the difficulty we experience is attributed. Lead is present in the glass, and Mr. Pellatt assumed that the carbon of the coal or coke, combining with the metal, deteriorated the colour. The gentleman alluded to declined to accept that explanation, but traced the effect to the presence of sulphur in the flame. Now, as charcoal contains purer carbon than coke or coal, the presence of that which both must equally give forth does not account for a change which one alone induces; but as sulphur has a remarkable affinity for lead, on the colour of which it conspicuously operates, we think the reason urged, although it was not generally accepted, is likely to be the correct one.

VENTILATION OF PUBLIC BUILDINGS.—At the Royal Scottish Society of Arts, Mr. R. RITCHIE, C.E., read a paper on the method of ventilation adopted by him at the new Police Buildings, Edinburgh, which plan was founded upon the principle for which, in 1847, that society had awarded to him a silver medal and plate, value 10*l.* The certainty of operation of this process and its efficiency had now been fully attested. Mr. Ritchie described that a furnace, placed at the basement of the building, was made to heat, with the utmost simplicity, a very powerful patent hot water apparatus, placed 70 ft. above it at the roof, for extracting the foul air. The various rooms and cells in the building were each provided with a conduit to carry off the exhaled air, and these conduits terminated in a long gallery under the roof; the extracting apparatus was erected at one part of the gallery at the bottom of an ascending shaft. This shaft terminated in a louvre, so arranged that the orifices of discharge could be regulated, according to the direction of the wind, in the furnace room at the basement. By means of this powerful apparatus, the exhaled air drawn from the rooms and cells into the gallery passed without obstruction into the atmosphere. He pointed out that this plan of ventilation possessed the obvious advantage, that it was free from the risk of the reflux of foul air and vapours of combustion into the rooms and cells, and it is likewise free from danger of fire. This mode of ventilation could easily be adapted for one or for many apartments, and he considered it applicable to mining ventilation. The consumption of fuel for the ventilating apparatus at the police buildings was exceedingly small for the effect produced. He also described the means provided for supplying fresh air for renovation, which in winter was warmed by means of a mild hot water apparatus, and the air regulated in moisture in a chamber of preparation. He stated that this method had been applied most successfully by him at various buildings, and referred, amongst others, to St. John's Chapel, Edinburgh, which was equally heated with one fire, substituted in place of two stoves, formerly used.

ANTIDOTES AGAINST CHOLERA.—There has been discovered on the Mount Olympus, in Asia-Minor, a plant, of which the botanical name is unknown. The stalk and leaves resemble thyme, the flowers those of lavender. After a number of experiments, it has been found that a decoction of this plant has the power of producing reaction in the stage of collapse in cholera, or to arrest the diarrhœa and sickness—in fact, to bring about the most satisfactory results. This plant, which is affirmed to be a true specific against cholera, is known by the name of "zhorabia."—*Medical Times* Lord Ponsonby, in a letter to his brother, the Bishop of Derry, states that "to his own knowledge, dissolved camphor proved to be a certain cure for cholera, both in Paris and in Germany; and, if taken in time, the cure is generally effected before it is possible to procure a physician—that is, in less than an hour."

NEW PATENTS.

G. Brandt, Little Gray's-inn-lane, Middlesex, machinist, for improvements in the construction of the bearings of railway engines, and railway and other carriages now in use.

J. Childs, Earl's-court Road, Old Brompton, Middlesex, wax bleacher, for improvements in the manufacture of candles, night lights, and candle lamps.

T. Cocksey, Little Bolton, Lancaster, millwright, and J. Nightingale, Brightines, of the said county, bleacher, for certain machinery to facilitate the washing and cleansing of cotton and other fabrics, which machinery is applicable to certain operations in bleaching, dyeing, printing, and sizing warps and piece goods.

L. P. N. D. Piron, engineer, Paris, for certain improvements in tubes, pipes, flags, kerbs for pavement and tram roads.

C. Shepherd, Leadenhall-street, London, chronometer maker, for certain improvements in working clocks, and other time keepers, telegraphs, and machinery by electricity.

R. Clegg, J. Henderson, and J. Calvert, Blackburn, Lancaster, manufacturers, for certain improvements in looms for weaving.

V. Ruthven, engineer, Edinburgh, Scotland, for improvements in preserving lives and property from water and fire, and in producing pressure for various useful purposes.

W. H. Phillips, York-terrace, Camberwell New Road, Surrey, engineer, for improvements in extinguishing fire, in the preparation of materials to be used for that purpose, and improvements to assist in saving life and property.

W. E. Newton, Chancery-lane, civil engineer, for improvements in machinery for the manufacture of net lace, or other similar fabrics.

W. H. Knapp, Long-lane, Borough of Southwark, chemist, for improvements in preparing wood for the purpose of matches and fire-wood.

T. N. Greening, of the firm of Messrs. Burdekins and Greening, of Sheffield, cutlery manufacturers, for improvements in knives and forks.

A. Alliott, Lenton Works, Nottingham, bleacher, for improvements in apparatus for ascertaining and for marking or registering the force or pressure of wind, of water, and of steam; the weight of goods or substances, and the velocity of carriages; also in apparatus for ascertaining, under certain circumstances, the length of time elapsed after carriages have passed any given place, and for enabling the place or direction of floating bodies to be ascertained.

G. Remington, Warkworth, Northumberland, civil engineer, for improvements in locomotive, marine, and stationary steam-engines, and in hydraulic and pneumatic engines.

W. E. Newton, Chancery-lane, civil engineer, for improvements in boilers or steam generators. (Being a communication.)

H. Bessemer, Baxter-house, Middlesex, for improvements in the methods of extracting saccharine juices from the sugar cane, and in the manufacture of sugar, as also in the machinery or apparatus employed therein.

J. Ormerod, Holt Holme Mill, near Newchurch, Lancaster, spinner, for improvements in carding cotton, and other fibrous substances.

R. Gordon, Heaton Norris, Lancaster, engineer, for certain improvements in the ventilations of mines. [This patent was not sealed till the 19th, but bears date the 4th of April, instant, per order of the Lord Chancellor, being opposed at the Great Seal.]

W. Little, of the Strand, for improvements in the manufacture of materials for lubricating machinery.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

A. Speirs, Vauxhall Foundry, Liverpool, hydrant or water valve.

A. Robertson, Dublin, gum elastic breast reliever.

H. Thompson, Long Acre, yaw for metallic joints.

J. J. Welch and J. S. Margetson, Cheapside, elastic serial stock or tie.

W. Arkell and W. Jackson, Cheltenham, fore carriage framing.

W. Gent, Bennett's Hill, Birmingham, the Gemini coat.

J. Wilson and C. P. Woodfin, Hull, double stench trap.

H. A. Bodien, Pentonville, false bottom and tube for flower-pots.

G. Forrester and Co., Liverpool, parts of a hydrant.

W. Cook, Regent-street, transverse or cross connectors to inverted double C springs and others.—*Mechanics' Magazine.*

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY .....Gas Light and Coke Company—offices, at Eleven.
Great Indian Peninsular Railway—London Tavern, at One.
TUESDAY.....Galvanised Iron Company—London Tavern, at One.
Lambeth Water-Works Company—offices, at Eleven.
London Corn Exchange Company—offices, at One.
WEDNESDAY...Compressed Air Engine Company—Thatched House Tavern, at One.
THURSDAY ....Globe Insurance Company—offices, at One.
London and Provincial Law Assurance Society—offices, at Two.
FRIDAY.....Blaenavon Iron and Coal Company—offices, at One.
New Zealand Company—offices, at One.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

PROVINCIAL BANK OF IRELAND.

An extraordinary meeting of proprietors of this company was held at the bank, Old Broad-street, City, on Monday last, for the purpose of electing a director in the room of John Alliston, Esq., resigned, and to take into consideration, and, if approved of, to adopt certain alterations in the Deed of Settlement, proposed by the directors.

OLIVER FARRER, Esq., having been voted to the chair, the SECRETARY read the advertisements announing the vacancy in the direction, and calling the meeting for the purposes stated.

The CHAIRMAN said: You have heard that we meet together for two purposes—to elect a director in place of Mr. Alliston, resigned, and to make certain alterations in our Deed of Settlement. I shall not at present say anything on the latter subject, but will proceed to the first object, which is the election of a director in the room of Mr. Alliston. No candidate has come forward but Sir James Weir Hogg, Bart., M.P., so that I have only to move that this gentleman be elected a director of this establishment. (Hear.)

Being then put to the vote, the motion was agreed to unanimously.

The CHAIRMAN: That being done, I will now, in a very few words, explain to you the different alterations which we recommend you to make in the Deed of Settlement. You are aware that we have now gone on for nearly a quarter of a century with the first deed that ever was prepared in England, or Ireland, for a joint-stock banking company; therefore, if imperfections had been found out in its working, they need not cause any surprise. Other companies have had the advantage of it as a precedent, and, from our experience, have been able to obviate such imperfections. I hope it will be a matter of congratulation to you, that after a course of 25 years, we have, under such circumstances, to make so few alterations in our Deed of Settlement. Those we propose to you to-day are more technical than anything else; neither are they such as need give rise to any doubts of the propriety of their being adopted. There are three alterations now proposed, the objects of which I will mention to you more particularly. The first is an alteration in the present mode of appointing trustees. These trustees are, as you are aware, merely those in whose names the whole of the property of the bank is placed; they have no power of any sort or kind; they are merely and technically those persons in whose names the property is placed. By our Deed of Constitution, we are called upon to appoint seven trustees, and the same deed provides that all the securities shall be held in the names of not less than four of these trustees. On the formation of this society we were not aware of the impossibility of the funds being placed in the names of four trustees, and we have been compelled to place them in the names of two trustees, which has been to a certain extent a violation of our deed. We, therefore, ask you to-day to enable us to do that which we have hitherto been doing with much advantage to the bank, because we wish in doing so to proceed formally, and in accordance with the Deed of Settlement. As we have now but these seven trustees under the deed, it is also proposed that every director should, in virtue of his office, be a trustee, and that the property of the bank should be placed in the names of two of these trustees. Again, we may have to appoint other persons trustees for special purposes, as we have occasion to hold or receive transfer of stock in Ireland, and find it necessary to place it in the names of the bank's officers there. We, therefore, ask you to give us your authority to name trustees there also. It is again directed by our deed that every gentleman, before being eligible for a director, shall have been a proprietor for six months. Now this we find is attended with considerable inconvenience, for many persons might be excluded from filling a vacancy who were all the while the most proper men for directors. (Hear, hear.) I can mention an instance on this occasion where there was only one candidate, who was the gentleman you have now elected; he was the only canditate proposed for election to-day; and it so happened that even he had only held his shares just up to the time required by the deed. (Hear, hear.) We therefore propose, if you see no objection, that it shall only be requisite for a candidate to have his shares at the time of his being proposed, and at the time of his being elected. This plan will leave the choice completely open to the whole of the proprietors generally, who can select that gentleman who is most approved, without reference to his having had shares for six weeks, or six months; this will make no difference, his suitability for the office of director being the only question. (Hear, hear.) The last alteration is one that, if adopted, will be found very useful. It is, that the shares of any proprietor shall be liable for any debt that may be owing by him to this company. We have found, on one occasion, the want of such a power, and I might particularly instance that case, where we might have had a much better chance of recovering our money; but, as there was no such clause in our deed, we incurred a loss in consequence. (Hear.) I consider that it will be very useful to put such a clause in the Deed of Settlement. It would be an act of simple justice to ourselves, and it would be a great convenience to many of our shareholders, for we are often asked to discount a man's bill in Ireland, when it is stated that he holds a number of shares in our bank; but what security is it to us that he hold shares, if we have no security on them for the payment of the bill we discount? (Hear, hear.) Now, if we discount, we are put to the necessity of compelling him to transfer his shares; but by the plan we now propose we shall have the right to pay ourselves, if he does not meet his bill when due. These are the various alterations we now propose, and if any proprietor should see any objection to them, I shall be very happy to answer him to the best of my ability.

The first resolution, to the following effect, that all the directors, and persons specifically appointed by them, shall be trustees of the bank, and that the securities and property of the bank shall be placed in the names of not less than two of such trustees, was then read, and

The CHAIRMAN said, that in respect to this resolution, it would be necessary that the clauses 50 and 105 of the Deed of Settlement should be repealed, and the 69th clause so altered as to embrace its objects; which was, accordingly proposed, and unanimously agreed to.

The second resolution, which was to make an alteration in the 102d clause of the deed, to the effect, that any proprietor holding the necessary qualification, may be elected a director, though he may not have been a proprietor for six months previous to the day of election, was then proposed, and, after some discussion, unanimously agreed to.

Two other resolutions, to the effect that the shares of proprietors shall be subject to the payment of their debts and liabilities to the bank, were then proposed by the CHAIRMAN, and having been read by the SECRETARY, were unanimously agreed to.

The CHAIRMAN then said there was another clause which it was as well to adopt, the object of which was, to enable the committee of directors to act with respect to these new clauses, as they were authorised to do with respect to the other clauses of the Deed of Settlement. A resolution to the effect that the power given to the directors on the 27th of February, 1828, and the 5th of March in the same year, should be continued, and should extend to all matters embraced by the resolutions adopted by this meeting, was then passed unanimously.

The CHAIRMAN: These resolutions all need confirmation, and, to save you the trouble of coming again for the purpose, we can submit them for confirmation at our annual general meeting, which will be held on the 17th of May; and, as there is time enough for the purpose, it will not be attended with any inconvenience.

Captain PORTER, R.N., then moved a vote of thanks to the directors, and to the chairman.—Mr. S. WARNER seconded the motion, which was agreed to unanimously.

The CHAIRMAN returned thanks, and the meeting then adjourned.

RAILWAY PROPERTY.

A meeting was held in Liverpool during the past week, to take into consideration the propriety of petitioning Parliament for an adjustment of the system of rating railways: during the proceedings Mr. D. Neilson introduced the following statistical statement:—

Railway Property.

Capital expended on railways to June, 1848	£148,400,000
Less amount unproductive	17,200,000
	£131,200,000
Revenue from traffic for the half-year ending June 30, 1848	£4,722,719
Working expenses	2,341,770
Leaving a profit equal to 3*l.* 12s. 4d. per cent. per annum	£2,380,949
Lines included in the above which pay no dividend	23,810,000
The traffic, however, during the half-year on the lines paying no dividend amounted to	£107,390,000 £376,244
Working expenses	241,033

Deducting the capital expended in the non-paying dividend lines (23,810,000*l.*), and the traffic receipts and working expenses belonging thereto, the sum of 107,390,000*l.* will remain as the aggregate capital of the divided-paying lines with traffic receipts of 4,346,475*l.*, and the working expenditure of 2,100,737*l.*—showing a profit of 2,245,738*l.*, equal to 4*l.* 3s. 7d. per cent. per annum.

Dividends on the Principal English Lines.

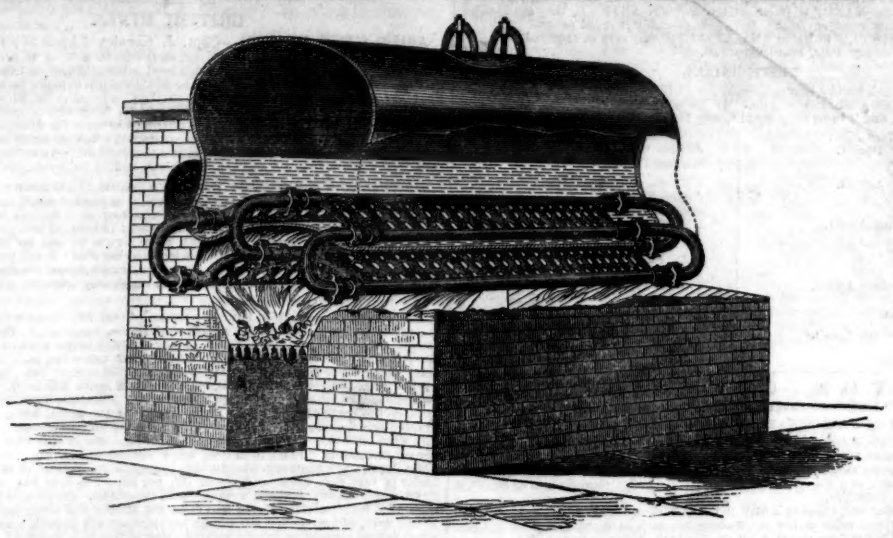
Name of Railway.	June. 1848.	Dec.
Eastern Counties	4 per cent. per annum	2½
Great Western	7 " "	6
Lancashire and Yorkshire	6 " "	5
London and North-Western	7 " "	7
London and South-Western	6 " "	5
London, Brighton, and South Coast	2½ " "	4½
Midland	6 " "	5
South-Eastern	6 " "	5
York, Newcastle, and Berwick	8 " "	6
York and North Midland	8 " "	6
	60½	52½
Average equal to	6·2	5·2

Average profit as above (June, 1848) 4*l.* 3s. 7d., equal in Dec. to 3*l.* 11s. 3d. per cent. per annum; or on all lines for money expended to 3*l.* 1s. 7d. (less income tax) on dividend-paying lines.

Government Duty on Passenger Traffic, and Rates and Taxes, on the principal English Lines for the year 1848.

Name of Railway.	Government Duty.	Rates and Taxes.
Eastern Counties	£16,817	£24,754
Great Western	29,603	38,555
Lancashire and Yorkshire	4,336	16,793
London and North-Western	50,505	58,649
London and South-Western	15,033	19,491
London, Brighton, and South Coast	16,376	22,834
Midland	23,043	33,125
South-Eastern	14,895	24,367
York, Newcastle, and Berwick	6,571	14,513
York and North Midland	7,092	13,960
Total	£182,471	£257,041

IMPROVEMENTS IN GENERATING STEAM AND EVAPORATING FLUIDS.



The importance of any invention by which increased power is obtained, or a saving effected in the fuel consumed, is one which must be hailed as a grand desideratum by the miner and manufacturer. When it is considered the vast consumption of coal, even in the counties of Cornwall and Devon, any saving, however slight, whether arising from improvements in machinery, or any other mode whereby fuel is saved, is a matter of importance.

The average quantity of water evaporated by 1 lb. of fuel, we believe, does not exceed 7 lbs., while by a patent lately secured by Mr. Wright, from 11 to 12 lbs. of water have been evaporated, or 75 per cent. over the ordinary power obtained, while one of the main advantages attendant on this invention is that of the reduction in the cost and weight of the boilers employed, not to advert to the saving of coal. That the economy observed can be fully carried out we believe no question exists, inasmuch as an engine with boiler, and cellular plates communicating with the boiler, as described in the patent, has performed a duty approaching to upwards of 12, and this in the presence of some of the first engineers, under the direction of Messrs. Galloway, Armstrong, and others.

The claims put forth in the patent consist of the principle or mode of construction and application of tubes, and a particular kind of cellular vessels or plates, charged with water or other fluids, whereby heat may be transmitted to the interior of steam-boilers or tanks containing water, intended to be boiled or evaporated. The system of evaporation pursued is that of the circulation of hot water through small tubes, or an endless tube, whereby the water in that portion of the tube is expanded and ascends. The water so contained is capable of being raised to a temperature of 400° to 500° Fahr., without forming into steam, thus putting the contents of the coil in motion, the heated water passing through the vessel or boiler, and giving out a portion of its heat, then descending by its gravity, it returns to the fire and takes up another charge, and, to use the words of the patent, "thus every particle of the water successively becomes the recipient and transmitter of caloric from the fire to the fluid to be boiled or evaporated." It is proposed that the tubes in the cellular plates or vessels shall be of iron, gun-metal, or suitable alloys, as the flame can only impinge on the boiler by passing through the interstices of such cellular vessel. The specification then goes on to describe the manner in which the plates shall be cast or moulded, and also in forming the curves or cellular plates, while it is to be observed a considerable saving is to be effected in the increased durability of the boiler, which in itself is a very important consideration.

We deem it unnecessary further to follow out the specification of the patent, being content with drawing attention to an improvement whereby great economy may be observed in the working of our mines and manufactories, the patentees undertaking to guarantee a saving of at least 25 per cent. on the fuel previously used by the ordinary boiler; at the same time, by getting an increased power in a reduced space, a considerable saving is not only effected in the construction of the machinery, but also the space occupied, which, with the saving in fuel, form most important features as connected with steam navigation. The diagram we have introduced will best illustrate the nature of this economical and vast improvement in generating steam.—*Mining Almanack.*

ON GOLD DEPOSITS AND WASHINGS.

BY JOSE E. CLIFFE, M.D, F.G.S.

Gold, from being found in its metallic state, is always, even to those acquainted with finding it in its deposits, a subject of much exaggeration, to many times its real amount; and even to the well-informed, the mind willingly deceives itself as to the real quantity, and no approximations are admitted to be correct, except the real one of its actual weight. Brazil, Mexico, some parts of North America, Borneo, and other places, have had their day; their riches were, for a time, equal to what California *may* produce; but the very different circumstances which existed in those countries when gold was discovered, prevented, from their little intercourse with the civilised world, the fame of their wealth preceding the actual produce of it being brought to market. Africa is known to contain great diluvial deposits of gold, and probably also rich veins, but its pestiferous climate has hitherto prevented the *splendacious* descendants of the Anglo-Saxon race from working, and proving this fact; yet the gold received from Africa annually amounts to nearly 1½ tons by weight, and this under the disadvantageous mode of solitary workings, in a climate where Nature supplies man's wants, and they are but few, and gold is produced as wanted for extraneous luxuries; and this by a people so well known, as the African race now are, to abominate continuous labour. Gold will be found here (California) in the four following conditions, that seem to identify it in all other countries. Gold and platina, not being oxidable in Nature's laboratory (the earth), are exceptions to the other metals, whose ores exist under circumstances that have no bearing to gold, stream tin excepted.

1. The *diluvial deposits* are found in the beds of streams and valleys, and occasionally, where obstructions have occurred, to a limited height on the higher lands in the neighbourhood of rivers, embedded in gravel and the debris of rocks, and continuous as regards the quality of the gold, and frequently as regards the given contents per cubic fathom. These, in most cases, from the greater facility of working, have been the most productive, and have more frequently enriched the miner, as little machinery is requisite, and the simple materials required for forming an establishment are easily procured, and the returns are also quick; and, everything being required for temporary purposes, are cheaply moved as the gold becomes exhausted.

2. Veins and beds, which are generally found to exist in mountains of secondary height, but parallel to the great meridional range of the continent, the working of these requires machinery of various kinds—pumps, stamps, large amounts of iron, powder, &c.; in fact, they are intended to be permanent establishments, and require a certain outlay before the expected profits can arise; yet, at the same time, if rich, they are generally of a very temporary nature, as a few years' continued labour exhausts the productive parts of the veins, and it is not well known, in the majority of gold veins, that, at very moderate depths, the gold gradually and regularly diminishes in quantity; in some cases it improves slightly in quality, yet, at last, the gold produced is much too dear for the market prices The history of old gold mines does not prove the veins are entirely exhausted, only that the gold exists in such small quantities per cubic fathom of the gangue, that a graduated increasing loss arises upon each ounce of gold produced, from the increased expense of going deeper.

3. Gold is also found overlaying the diluvial deposits in the recent earthy matter, and is slowly and gradually brought into the valleys and streams by the action of rain, torrents of water, &c.; in the neighbourhood of lodes and beds (auriferous) they frequently are very rich, and in many cases have led to the discoveries of important mines, as the once far-famed Gongo Soco, of Brazil. Frequently, however, this gold is the mere concentration of many ages, by the action of water on earthy and ferruginous soils, which, for hundreds of miles, contain traces of gold throughout, but so small a per-centage per ton, that by no known process of extraction can it be made available for industrial purposes. Some of the states of North America, Mexico, Vaxaca, and Brazil, are so situated; the object in these countries not being to find where gold exists, but where gold exists in quantities sufficient to repay the labour expended in bringing it into a saleable condition, with a present or prospective hope of bunches.

4. The last gold which is usually found is a portion which exists in worked diluvial and alluvial deposits, but, from imperfections in working or washing, a portion escapes, and, from its specific gravity, it soon settles in the earthy contents of the workings and the rivers, and as the earthy matter is annually washing away, whilst most of the gold remains, after a lapse of time, it is frequently found to be more or less profitable to a hard-working class, whose labour is the last vestige of the golden dream of the once famed El Dorado. It is much to be regretted that, in this age of machinery, nothing of consequence has been done for the gold-finder in facilitating the separation of gold from earthy matter with less loss than is now generally known; the various amalgamating apparatus are too tedious for poor ores, and unnecessary for rich ones; yet, from the well-known simple affinity of mercury with gold, and its readiness of action, we trust something will be done, as earthy matter containing from 10 to 200 grains of gold, by weight, per ton of earth, unless water is abundant, will frequently not pay for washing, and the loss more than is generally supposed. A ton of earth contains, by weight, more than 14,000,000 of grains; and to gather together any two pennyweights of gold out of this quantity, and a part of it in an impalpable powder, it requires no stretch of the imagination to suppose some is swept away by the action of water, and the small stones, mud, and clay. A great mistake frequently exists in gold districts upon finding a rich spot; the whole area of the country is at once supposed to be equally rich; of course, time soon shows the fallacy of this belief.

It has been generally found that, at a distance from the mountains in which the auriferous streams arise, there is a point in which the gold is nearly an impalpable dust; that, going up the stream, it sensibly increases, in laminated particles, and increases gradually in coarseness, till the gold is found with its natural roughness and points, as if fresh broken from its matrix. Larger pieces occur, even to many pounds in weight; as also pieces are found containing portions of the matrix, thus occasionally enabling the shrewed observer to form a good guess of the neighbourhood in which to look for mines with some hopes of success. Few, comparatively speaking, have enriched themselves by gold-finding; the very circumstance of finding money excites to extravagance, and from this cause many through whose hands much wealth has passed, have left off poor as when they commenced. The aureous streams of Wicklow are in strict accordance with these remarks.—*Mining Almanack.*

MANUFACTURE OF GOLD—THE LAST OF THE ALCHEMISTS.—The last true believer in alchemy was, according to Mr. Brande, one Peter Woulfe, who occupied chambers in Barnard's Inn, Holborn, while in London, and usually spent the summer in Paris. He died in 1805. About the year 1801, another solitary adept lived, or rather starved, in London, in the person of an editor of an evening newspaper, who expected to compound the alkahest, if he could keep his materials digested in a lamp-furnace for the space of seven years. The lamp burnt brightly during 6 years 11 months, and some odd days besides; and then, unluckily, it went out. Why it went out, the adept could never guess; but he was certain that if the flame could only have burnt to the end of the septenary cycle, his experiment must have succeeded. In 1828, Sir Richard Phillips visited "an alchemist," named Kellerman, at the village of Lilley, midway between Luton and Hitchen; he was believed by some of his neighbours to have succeeded in discovering the philosopher's stone, and also the universal solvent. He had been a man of fashion, and an adventurer on the turf; but had for many years shut himself up at Lilley, and been inaccessible and invisible to the world; his house being barricaded, and the walls of his ground protected by hurdles, with spring-guns so planted, as to resist intrusion in every direction. Sir Richard, however, obtained an interview with this strange being, and, in a conversation of two or three hours duration, Kellerman enlarged upon the merits of the ancient alchemists, and on the blunders and impertinent assumptions of modern chemists. He quoted Roger and Lord Bacon, Paracelsus, Boyle, Boerhaave, Woolfe, and others, to justify his pursuits. As to the term philosopher's stone, he alleged that it was a mere figure to deceive the vulgar. He appeared to give full credit to the silly story of Dee's assistant, Kelly, finding some of the powder of projection in the tomb of Roger Bacon, at Glastonbury, by means of which, as he said, Kelly for a length of time supported himself in princely splendour. Kellerman added, that he had discovered the "blacker than black" of Appolonius Tyanus—it was itself "the powder of projection for producing gold." It further appeared he had lived in Lilley for 23 years, during 14 of which he had pursued his alchemical studies with unremitting ardour, keeping eight assistants for the purpose of superintending his crucibles, two at a time, relieving each other every six hours—that he had exposed some preparations to intense heat for many months at a time, but that all except one crucible had burst—and that, Kellerman said, contained the true "blacker than black." One of his assistants, however, protested that no gold had ever been found, and that no mercury had ever been fixed, for he was quite sure Kellerman could not have concealed it from his assistants; while, on the contrary, they witnessed his severe disappointment at the result of his most elaborate experiments. By the way, in the introduction to *Zanoni*, Sir E. Bulwer Lytton has given a clever sketch of the author's old friend, Mr. D——, in the neighbourhood of Covent Garden, who is said to have assembled "the most notable collection ever amassed by an enthusiast, of the works of alchemist, cabalist, and astrologer." The "vindictive glare and uneasy vigilance," and the frowning and groaning of the anti-bookseller (for it absolutely went to his heart when a customer entered his shop), are all very characteristic and life-like in this sketch. Many a time have we seen him gloating over his musty, unsaleable treasures, in the purchase of which, we hear, this eccentric being expended a fortune.

ECONOMY OF FUEL.—Any new invention, which is stated by competent judges to be capable of effecting a great saving of fuel, and an almost total consumption of smoke, has claims on the public attention and investigation. Such an invention, we are assured, is the steam-boiler furnace of Mr. H. F. Baker, of Boston, United States. Soon after its introduction into this country, Mr. Wicksteed, civil engineer, at the request of the patentee's agent, made two long experiments upon three Cornish boilers; first, without the new furnace; and secondly, the same boilers with the new furnace, using small Newcastle coals of inferior quality. From his details and results of these experiments we select a few, which seem to exhibit great superiority in regard to the saving of fuel, and the efficiency of action:—

	Without New Furnace.	With New.
Coals consumed per hour	*Lbs.* 313	293
Water evaporated per hour	2·170	2·556
Do. per lb. of coals from initial temperature	6·919	7·701
Do. from 212° (latent heat 1000°)	7·725	8·640

The last line shows that, when taking the coals from the heap, 1 lb. of coals with this furnace evaporated 11·8 per cent. more water than without. Mr. Wicksteed adds, that "After this trial, which exhibits a saving of 11·8 per cent. of fuel in the Cornish boilers, I can have no hesitation in declaring that the saving of 37 per cent. upon the average, stated to have been effected in the American establishments, has been effected, and that there are numberless cases in Great Britain where a similar saving might be produced." Mr. Wicksteed says he had not a fair opportunity of testing the merits of this furnace as a smoke consumer, but with one straight flue to the chimney, as in the American furnaces, he thinks if a reduction of fuel were effected by introducing slow combustion generally, the average saving in our manufacturing establishments would be 30 per cent. of fuel; and that "this would cause an annual reduction of smoke in proportion to the fuel; but there is also no doubt that the reduction of black smoke evolved from the chimneys would be in a much greater proportion than the reduction in the quantity of coals, in consequence of the slow combustion." This furnace is said to have the further merits of cheapness of construction (causing a considerable saving in the first outlay upon new boilers and buidings), and of being cheaply adapted to any description of boiler already set. None of these furnaces being yet erected in Manchester, we are unable to say anything of our own knowledge respecting their merits, but we understand that there is one at the works of Messrs. Thomas Hoyle and Sons, at Dukinfield, which gives great satisfaction both as to its economy of fuel and its consumption of smoke. Mr. Graham, of that firm, has stated, that the very careful experiments there made with this furnace would indicate a better result than any he had ever before obtained from any of the furnaces which he had experimented upon, in numerous experiments on the evaporation of water, and on smoke burning. Another of these furnaces is at work at the Broad Oak print works of Messrs. Hargreaves Brothers, at Acrington, and gives satisfaction there. We have seen a letter from the United States, which states that these furnaces are being erected at the Washington navy yard, under the direction of the engineer-in-chief of the United States' navy, and that they are also to be placed at the other navy yard (Norfolk, Virginia).—*Manchester Guardian.*

Mining Correspondence.

BRITISH MINES.

ASHBURTON UNITED.—Capt. J. Kernick (April 17) reports—The 55 fm. level at Hobson's is being driven east on the north lode, at 4*l.* per fm.; the lode is 1 ft. wide, saving stuff. The back of this level is being stoped on tribute, every foot of ground for 20 fms. behind the end and the pitches likely to make permanent returns of tin. The rise in the back of Hobson's 45 fm. level is holed to the 35, which has ventilated the pitches in that part of the mine. The 35 fm. level west is producing some stones of tin; but it is not extended sufficiently westward to meet the shoots of tin in the tribute ground, in the levels below. The cross-cut, to cut a further north lode at Hobson's 35 north, is in favourable ground. I expect two men will drive 5 fms. this month. The appearances of the lode in the stopes at Parry's 25 and 14 fm. levels, are as last reported.

BARRISTOWN.—Captain T. Angove (April 13) reports—The lode in the winze, sinking in the bottom of the 16 fm. level, is at present small, contracted to a small leader of ore, about 2 in. wide; however east and west of it the lode is larger; the lode in the back of the 16 fm. level is producing about 12 cwts. of lead per fm. The lode in the bottom of the adit level is producing about 5 cwts. of lead per fm.; in back of this level, west of the slide, the bunch of ore is lengthening west; it will produce about 1½ ton per fm.; at present we are still driving east on a branch, about 6 inches wide, east of the slide, and about 2 fathoms over the adit level, which may improve, as the ground looks a little better about it.

BEAM (TIN).—Captain H. Williams (April 10) reports—I have inspected this mine (in the parishes of St. Austell and Roche, Cornwall.) The principal underground operations now in progress are chiefly confined to the working of the north, middle, and south caunter lodes, from the 20 fm. level below the adit, and upwards. The south caunter lode is about 3 fms. south of the middle caunter lode; the ground is chiefly worked away above the 20 fm. level, but unwrought below that level. The captains, who I believe can be relied on, say there is a good lode gone down in the bottom of the 20 fm. level, on the south caunter lode. In the bottom of the 20 fm. level, I saw the middle caunter lode opened, which is 18 in. wide, producing tin throughout. The leader is about 6 in. wide, and very rich work, worth 15*l.* per fm.—the ground very soft, and in every respect favourable. There is no level below opened on this lode. In the bottom of the 10 fm. level, I saw the north caunter lode opened, which is from 12 to 15 in. wide, with a leader of very rich work, and worth 10*l.* per fm. This lode has been opened in the 20 fm. level, where some good work has been discovered. The ground is unwrought under the 20 fm. level, on this lode, as well as on the middle and south caunter lodes. In the 20 fm. level, 10 fms. further north than the lodes already named, is another lode, opened about 40 fms. containing tribute ground—size of this lode irregular. The tributers are paid for the tin at a fixed price of 45*l.* per ton only, whilst the price obtained by the adventurers has been nearly 60*l.* per ton. The tin is of excellent quality, and sells for grain tin. It is cheap and easy for cleansing, the lodes being in soft decomposed granite—price for driving the levels from 25s. to 30s. per fm. When the levels are driven and properly drained, the backs can be stoped for from 10s. to 15s. per fm. From the 20 fm. level and upwards, the present adventurers are raising from 7 to 8 tons of tin per month. I have seen the new lode also, which has been cut in the western part of the mine. This lode is about 6 fms. further north than the lodes already named. It has not been intersected in any other part of the mine. It varies in size from 6 to 18 in., in a beautiful decomposed granite, and has been opened on 14 fms. below the surface 30 fms. in length, and is tribute ground throughout. The second shallow level is 6 fms. below the last named level—driving east in this level, at 17s. per fm., lode 9 in. wide, good saving work, that will let at a moderate tribute; ditto driving west at 15s. per fm., lode 18 in. wide, opening tribute ground. There are five pitches working on this new lode in the western part of the mine; the number will be increased as the levels progress: 2½ tons of tin per month is now being raised from this lode, which may be expected to increase. The 32 fm. level is cleared 15 fms. north from the engine-shaft. About 12 fms. of this 15 fms. is through old workings; the other 3 fms. are in whole ground, not before opened, and in which the labourers discovered and cut through, on Thursday last, the 5th day of April inst., a north caunter lode, 2½ ft. wide, producing very rich tinstuff, composed chiefly of cockle and tin. I have this day weighed one single stone from this lode; it weighed 32 lbs., and I believe it contains full one-half tin, of a very superior quality, free from weed. It will stamp very freely. I have also pulverised and cleansed an average sample of tinstuff, which I took from this lode, and I find that the produce is more than one quarter part tin. This lode is worth 65*l.* per fm., and in very favourable ground. To bring the mine into a profitable and permanent state, a new shaft must be sunk north of the engine-shaft, by which five other principal lodes can be opened, as described in the prospectus. It is intended that the proposed new shaft shall take the north lode at the 72 or 82 fm. level—the former of these I recommend. The machinery consists of an excellent steam-engine, 50-inch cylinder, 9 feet stroke in cylinder, and 8 feet stroke in shaft; two very good boilers, and drying tubes attached; good pit work; a capstan, capstan rope, and shears; a 36-feet water-wheel, connected with a drawing machine: five stamping mills, working 33 heads; kieves, hutches, sumps, buddles, cleansing floors, &c. &c., besides a quantity of spare materials. If the proposed new perpendicular shaft for cutting the north lode at the 72 or 82 fm. levels were sunk, as shown on the plan, it may be fairly presumed that the tin which would be raised at that level would amply repay the adventurers for all their outlay. In looking at the advantages of this mine, namely, its locality, machinery, softness of ground, with the numerous and productive lodes (a small portion of which in length has been worked on), and the superior quality of its tin, I consider that it holds out a very fair promise of great remuneration.

BEDFORD UNITED.—Capt. James Phillips (April 18) reports—At Wheal Marquis, the 103 fm. level east is without alteration. There has been no lode taken down in the 90 fm. level east. In Burley's winze, in this level, the lode is still worth 80*l.* per fathom. There has been no lode taken down in the western winze, in this level, the men having been engaged cutting plat, &c. The lode in the 70 fm. level east is about 2 feet wide, producing good stones of copper and lead, and very promising. The pitches continue to yield good returns

BRYN-ARIAN.—Capt. Sampson Trevethan (April 17) reports—The lode in the engine-shaft is 6 ft. wide, and interspersed with lead ore throughout, we are saving it all for dressing; I think it will produce 15 cwts. of ore per fm. at least. We are down more than 5 fms. below the adit level, and the lode appears to be getting more settled in depth. The winze sinking under the adit level, 17 fms. west of the shaft, is not quite so productive as last reported, as we have more killas mixed with the lode at this time, but still it yields 5 cwts. of ore per fm. The adit level, driving east, is much as when I last wrote you, producing some good stones of ore; the lode is 8 ft. wide, with a very promising appearance. We have set a stope in the back of the adit level, east from the shaft, by four men, price 30s. per fm., which stope is now yielding 15 cwts. of ore per fm. We have also set a stope in the back of the shallow adit level, by two men; the lode appears to be left in the side by the old men, and we are now breaking very good work from that ground; this appears to be about 10 fathoms long and 7 fathoms high before we again come to the old workings sunk down from the surface. We are getting on with the mason work of the wheel-pit and expect to get it completed in about 10 days, should the weather prove favourable; we shall also have the carpenters' work ready for the casting by the time they arrive, which I hope will be next week, soon after which we shall sample 30 tons of ore.

CEFN GWYN.—Capt. S. Trevethan (April 17) reports—The lode in the adit level, driving west, is 6 ft. wide, composed of spar, killas, and stones of ore at times, but not a regular branch as yet; the ground is now more favourable for driving, and I hope we shall soon have a change for the better as to ore, for the lode looks very promising. The lode in the winze, sinking under the adit level, east from the cross-cut, is 8 ft. wide, the 4 ft. of which we carried was orey throughout, and yielding about 10 cwts. of ore per fathom; but the water becoming more plentiful than before, I thought it advisable to suspend its sinking for a month or two, and commence driving the level east, by which means we might be able to take up more water, when we shall be able to sink the winze in future for less per fathom.

DEVON AND COURTENAY.—Capt. N. Seccombe (April 27) reports—The lode in the end driving west, at the 40 fm. level, on the north lode, is 2 ft. wide, containing mundic and spar, and spotted with ore. In the end driving east, on the south lode, at the 50 fm. level, the lode is 2½ ft. wide, composed of spar, mundic, and peach, and producing some good stones of ore. The lode in the rise, in the back of this level, continues to look well—yielding about 2 tons of ore per fathom.

EAST ALVENNEY.—Captain J. Hoskins (April 13) reports—On Monday last I visited East Alvenney Mine, and carefully and minutely examined the different workings made below the surface, and took a survey of the sett, which is, indeed, a very extensive one, and one which contains many lodes and branches, all of them dipping in a southerly direction, except the north branches, from which tin has been recently raised, which have been worked extensively on the backs by the ancients, and from which, no doubt, immense quantities of tin was returned. The angle of depression of the branches is much greater than that of the south lodes—consequently these branches will form a junction with the south lode at a deeper level, (say) 20 fms. below the surface, the present working being only 10 fms. deep. The north branches are, indeed, productive of mineral, and the favourable indications of the south lodes warrant extensive trials; every fathom of ground, taking it on an average, that has been excavated during the present working, has yielded from 7*l.* to 8*l.* worth of tin. Such productive ground, so near the surface, is not often met with in our tin mines of Cornwall; and I feel confident, that after the workings are carried out in a proper manner, and with careful management, good and remunerative returns will be made, and the shareholders amply repaid for the small outlay of capital that will be required to bring the mine into a complete state of working. Two parcels of tin have been returned; another parcel is now getting ready; but owing to its being in a dressing state, some partly stamped, &c., it is impossible to form a correct estimate of the quantity. There is on the mine a good water-engine, capable of draining the mine to a great depth, a good stamp, dressing-floor, &c., and a quantity of very useful materials. There is also a good burning-house erected near the dressing-floor. As to the underlie of the different lodes there is no doubt, for it is evident, from a careful examination, that they all dip south in a greater or lesser degree, and that they must ultimately form a junction at a certain depth.

EAST BIRCH TOR (TIN).—Captain Thomas Moyle (April 18) reports—We are now sinking our engine-shaft with six men, and hope to get down 10 fms. this month; the lode in the shaft is much the same as last reported; we are now carrying it 12 ft. long, and our object for doing this is to get the shaft down the faster, to drive under the bunches of tin that are gone down in the bottom of the adit level. We are stoping the lode south of the elvan-course at 20s. per fm.; the end we are driving west, north of the elvan, is set at 45s. per fm.; the lode is improved, and worth 6*l.* per fm.; the end west, on the same lode, we are driving at 45s. per fm., and is worth 4*l.* per fm.; we are also stoping the back of the adit west of the footway shaft; and are raising tin here. We are keeping our stamps at work with the tinstuff we are producing from the two ends and the two stopes. We are getting on with our dressing department, and before we begin to clean we are putting our floors all right; we are expecting our dresser from Cornwall. There is no doubt about our water power; I can assure you that we have water and fall enough to work 200 heads of stamps when wanted, and I hope that it will not be long before we shall put up 100 of them.

EAST CROWNDALE.—S. Paull (April 14) reports—The ground in Diamond's engine-shaft continues without much alteration since my last report. The adit level, driving west on the course of Thomas's lode, is still poor and unproductive. I rather suspect a part of this lode to gone off to the south, which I intend to drive upon, and, in my next report, I hope to give a favourable account of this place. Tippett's stopes, in the back of the level, still continue to look well. The part of the lode we are carrying is composed of peach, prian, spar, mundic, white iron, and tin, and produces about 40*l.* worth per fm. Paul's stope, to the east of this, looks better than it did; the lode is composed of peach, prian, spar, mundic, and tin, the killas part, mentioned in my last, being almost worn out. This stope produces 40*l.* worth of tin per fm. In the 17 fm. level, driving east from Diamond's shaft, the lode is of a most kindly description; indeed, although not producing so much tin as I could wish, it is composed of peach, elvan, mundic, and tin, worth about 12*l.* per fm.

FOEL RHUDD (SILVER-LEAD AND COPPER MINE, MERIONETHSHIRE).—Capt. John Rowe Floyd (April 12) reports—I have to inform you that I have carefully examined this sett on the surface, and also the mining department in the adit level, and I am happy to state to you there is in the said sett a great many silver-lead lodes, well worthy the attention of gentlemen who have capital to invest in mining operations; in point of fact, I cannot call the sett a speculation; it is, I do say confidently, a sure take. The stratum is altogether congenial for producing abundance of silver-lead ores; it is composed of a soft beautiful blue and white killas, impregnated with fuller's earth, mundic, and felspar clay, which has been found in the west of England to be the best and most feeding ground for that valuable metal, silver-lead ore; and I know no reason why it should not prove the same in Wales as in Cornwall in England—which I verily believe it will. You will bear in mind the valuable lodes in Cowarch Mine (now at work) continues through Abercowarch sett, and from thence on through the eastern part of your sett, Foel Rhudd, which I do consider is of most material advantage to the Foel Rhudd Mine. Yes, gentlemen, I do not hesitate to say, in consequence of the before-mentioned lodes being in your sett, it has made your mine worth more by thousands of pounds. After examining the stratum, and the different lodes at surface, I directed my attention to the localities of and facilities for working the mine; the localities are very good indeed; in the first place, the roads are all very good for the carriage of ores and materials to and from the mine; secondly, there is the splendid river Dovey, from which we can take sufficient water to work any kind of machinery that should or may be required to any depth under the lofty mountain Foel Rhudd, without the aid of steam-engines, and that is an advantage of 2000*l.* per annum at the very least. After carefully noticing the localities, I proceeded to the mining operations, and entered the adit level, close alongside the river Dovey, and, for my own satisfaction, travelled a little north of west on the course of the lead lode about 120 fms.; and, in examining the lode as I travelled on, I found it to be 3 ft. wide, underlaying about 3 ft. in 6 ft., or otherwise, at an angle of 45° east—a very excellent underlay indeed. The general appearance of the lode indicates for large quantities of silver-lead ore, being composed of white iron, barytes, candid spar, white lead, and blue flookan, impregnated strongly with silver lead—in a word, a very handsome lode; and I do not hesitate to say, whoever sees this lode cut 20 fms. deep under the Foel Rhudd Mountain, will positively get a very rich silver-lead lode, and hear of large dividends being paid to the proprietors of the Foel Rhudd Mine—consequently, the quicker this mine is worked with spirit, the better it will be for all the proprietors. I have to inform you that we have intersected a copper lode in the shallow adit level above the road; this communication came to me just as I had finished the above report. I will write to you more fully on this subject in my next.

— *April* 17.—In my last report to you, I stated I should be able to write you more fully on the east and west copper lode that we had then intersected, and with the greatest satisfaction I have to inform you, that I had the pleasure to see the said copper lode in the presence of W. H. Smith, Esq., dessed for 3 fms. in length; I have also had part of the lode taken down, which produces good stones of silver-lead and copper ore; the lode is 3 ft. 6 in. wide, and altogether of the most promising character, and, as I before stated, I do not hesitate to say, will make a good dividend-paying mine. One thing, gentlemen, you must bear in mind, that we must sink under that lofty mountain, Foel Rhudd. In my next I will inform you about the outlay—no great amount.

HEIGNSTON DOWN CONSOLS.—Capt. W. Richards (April 14) reports—The lode in the 35 fm. level, east of Bailey's engine-shaft, is 5 ft. wide, yielding some good saving work for tin ore, to the value of 7*l.* per fm. The 30 fm. level, west of engine-shaft, is improved during the present week, yielding good saving work, to the value of at least 15*l.* per fm. The pitches are without alteration since last report. The western shaft is sunk about 2 fms., in which the lode is large, and from which some good stones of tin ore have been taken

HERODSFOOT.—Captains John Medlen and Peter Dunstan (April 17) report—The lode in the 106 fm. level north is 2 feet wide, producing good stones of lead; the lode in this level south is without alteration, no lode having been taken down since our last report; the stopes in the back of this level will produce, on an average, ½ ton of lead per fathom. The lode in the 94 end north is small and poor; the lode in this level south is 2 ft. wide, producing 7 cwts. of lead per fm.; the old pitches in the back of this level are producing a fair quantity of ore; the new ground in the south of this level is not sufficiently proved, as to set a value on it, having been prevented from taking down the lode, but yesterday we put two pares of men on the ground, and hope to report on it in our next. The lode in the 82 north is disordered by a slide running counter to the great slide, the lode at present being small and poor; in this level south we are driving west to open the main part of the lode, which has been cut by a borer hole; the stopes in the north part of this level will produce, on an average, 13 cwts. per fm.; the stopes on the flookan course, and we are now about to drive further west in search of the main part of the lode; the stopes in the back of this level north will produce, on an average, 12 cwts. per fm.; the stopes south will produce, on an average, 9 cwts. per fm. The lode in the 52 fm. level south is 1 ft. wide, producing 5 cwts. per fm., the end being very kindly. The shaft has not been progressing so favourably as we expected, having met with the capels of the lode. The March parcel of ore, mentioned in our last report (101 tons), has been sold to the Tamar Smelting Company, at 11*l.* 9s. 6d. per ton.

HOLMBUSH.—Capt. T. Chegwin (April 17) reports—In the 182 fm. level the ground is still favourable for driving. In the 120 fm. level, driving south to cut the south lode, east of Hitchens's engine-shaft, the ground is still hard; in the winze sinking below this level the lode is 1 ft. wide, composed of mundic and spar—ground soft for sinking. In the 120 fm. level, driving south on the lead lode, the lode is 3 ft. wide, worth 6*l.* per fm. In the 110 fm. level south, on the lead lode, the lode is 2 feet wide, worth 4*l.* per fathom. In the 100 fm. level, driving north to cut the counterpart of the flap-jack lode, the ground continues favourable.

KINGSETT AND BEDFORD.—Captain J. Spargo (April 16) reports—I have just returned from this mine, and am happy to tell you that there is a general improvement in the lodes throughout. Capt. Harris sent you the cost-sheet this morning, with some information respecting the copper lode near the greens. Since his letter was posted there is a greater improvement; the men have shot into a branch of mundic, nearly solid, with spots of copper in it. On the foot wall of the lode, about 14 in. wide, there is a north wall appearing, and in a few fathoms farther driving we hope to be able to call it a well defined lode, with two good walls. It does not underlay so fast as when I saw it last week, it also carries a soft blue peach on the foot wall, just like the lodes in Great Wheal Friendship; as to the stratum, no one can tell the difference, it is a soft black clay-slate, full of veins of soft spar, impregnated with mundic and spots of copper. We are not far from the caunter intermixed with the slide, which has a tendency to disordered lodes, therefore, as we get farther off, we shall no doubt have something satisfactory. The eastern lode, driving north, is still producing excellent work for lead, and every appearance of a greater improvement. I believe I wrote last week informing you that we broke some rich stones of lead in the Bedford rise, from 7 to 10 lbs. weight; since that we have been rising by the side of the lode, therefore there has been no lode taken down since, but the men have bored a hole through the lode as far as they have risen by the side of it, and it carried 4 in. of solid lead. We shall not take down the lode here for a week to come, as it will much interfere with the progress in rising.——Capt. Harris reports—I herewith enclose you the cost-sheet. Pay-day will be on Saturday next. The eastern lead lode still looks very well; we are breaking good stones of lead, which, of course, must lead to something good by-and-bye; the lode is 4 ft. wide, and carries a leader of 8 inches. On the east and west lode, in the lower side, the greens is looking very kindly, 4 ft. wide, full of mundic, and spotted with copper, beautiful peach and spar in it, quite like the Old Wheal Friendship lodes, and it carries a beautiful south wall, and as we get away from the slide the lode still improves. We commenced rising in the Bedford about a week ago, and are breaking excellent stones of lead, and it appears there is a great improvement in the lode, and I think it must lead to a bunch of ore somewhere, or we should not have such appearances. I shall be able to say more about the copper lode after we have driven a few fathoms more in it, and I hope then to be able to give some good news, and I believe there are more copper lodes there yet.

KIRKCUDBRIGHTSHIRE.—The agent (April 14) reports—The lode in the engine-shaft is 5 feet wide; it has still a fine soft spar, with small branches of ore coming in it, yielding nearly ½ ton per fathom. The lode in the 30 end east is 4 ft. wide, with coarse spar, jack, and sulphur, and occasionally good stones of ore. The lode in the 50, west of Keith's, is still small, and close for breaking, with strings of ore in it. The lode in the 40 end west is 3 ft. wide, with a kindly bunch of ore in the upper part of the end, worth 7 or 8 cwts. of lead per fathom. The lode in the rise is improving in size; the north part of it is very hard, and making a little water.

MENDIP HILLS.—Capt. F. C. Harpur (April 16) reports—It was my intention, when I last wrote to you, to commence smelting the pile of slags we have on hand the following morning, and forward you the account by this day's post; but, in consequence of the flues of the boiler requiring some little alteration, am prevented from doing so. The beds of slags in Charter-house valley continue to improve in quality as we approach the main deposit of slags; the entire depth of our present cuttings is 26 ft., 9 ft. of which, on the top, is rubbish, the remaining 17 ft. is good slag work, I may say better than ever we have hitherto extracted from this part. In Ubley we have, since my last report, commenced washing and cleaning slags, the quality of which is quite equal to that of Charter-house—viz.: 3 cwts. of lead to 10 of slags. The men in the large open cutting have reached the original valley, which I find to be 24 ft. below the present surface; the first 12 feet from surface contain some veins of slags and a quantity of slimes, the remaining 12 ft., particularly near the bottom, is good work for slags.

RHOSWYDOL AND BACHERDDON.—Captain E. Davies (April 14) reports—According to promise, I now have to furnish you with a report of the present state of the mines, after two weeks working under our new and improved system. Bargains one, two, three, and eight, rising in the back of Smithy level, are all producing lead ore of similar quality, worth about ½ ton to the fathom, though it is so intermixed with jack, that it is very difficult to put a true estimate upon it. Smithy level, driving east, has improved. You will recollect the last printed report on this level stated that the end was poor; the lode is now much stronger, with sprigs of lead running through it. Experience now leads us what to expect in driving this level further to hill; the end is 8 fms. further east than Nant shaft. At 7 fms. east, in the 10 fm. level, the lode is in a disordered state; so likewise is it in Smithy level, precisely under that point. From the 10 fm. level east there is one continuous course of orey ground, and in the adit level it is opened 10 fms. further. Judging from analogy, I expect the Smithy level will fairly enter the true course of orey ground in 4 or 5 fms. more driving. It is termed the true course, to distinguish it from several other shoots of ore, upon which bargains one, two, three, and eight are working. The 17 fm. level is in a rich body of lead, worth about 1½ ton to the fathom; in the lode there are large vughs, in which we find solid loose lumps of ore about 1 lb. in weight, coated over with a fine oxide of lead; the lead is about 2 in. wide, solid on each side the vughs, besides several other strings. The end of the 40 fm. level, driving east, continues in good ore, worth about ¾ ton to the fathom; and likewise the stope in the back of the level. We expect an improvement here (the end) soon, from the appearance of the next bargain, which is No. 6, but stoped from the eastern winze to the Nant shaft; instead of the contrary, this is the easternmost stope we have, and is the best; it will produce more than 1½ ton to the fm. From the great facilities we now have for taking the ore out of the rough, the washers are passing about 30 waggons of attle through their hands daily; in another fortnight they can do 60; heretofore they did not pass more than 15 daily. The mines are now in a position to pay, and after June they will return a handsome profit, the amount of which will depend on the course of ore the Smithy level will further open upon. We have still further room for improvement in the dressing department, but, under existing circumstances, I trust this report will prove satisfactory to the shareholders: all difficulties are overcome.

SOUTH DOLCOATH.—Capt. P. Floyd (April 13) reports—The lode in the engine-shaft, sinking below the 50 fm. level, is 3 ft. wide, composed of spar and prian, with spots of ore; in the 50 and 40 west, the lode is about 2 ft. wide; in the 40 east the lode is 4 ft. wide, and kindly. In costeaning we have cut a lode about 12 fms. north of the south Dolcoath lode; we are sinking on the course of it; the result thereof I will advise you of in a few days. We are costeaning north and south, in expectation of cutting more lodes.

SOUTH WHEAL TRELAWNY.—Captain William Jenkin (April 16) reports—We have resumed sinking the engine-shaft with eight men, and things are also in a regular course of working, with ground moderate and water as well.

TRELEIGH CONSOLS.—Captain S. Uren (April 14) reports—Garden's shaft, below the 113 fm. level, is sinking in the country, south of the lode; in the 114 fm. level, west of ditto, the lode is 3 ft. wide, with stones of ore, mundic, and spar. In the 100, west of ditto, the lode is 20 in. wide, producing good stones of ore, and is looking more kindly. In the 90, west of ditto, the lode is 1 ft. wide, not much ore. In the 80, west of ditto, the lode is 18 in. wide, containing stones of ore, mundic, and jack. In the

60, west of ditto, the lode is 3 ft. wide, with stones of ore in it, and is looking promising. Wheal Parent shaft, below the 20 fm. level, is sinking in the country, north of the lode; in the 20, east of ditto, the lode is 20 in. wide, with good stones of ore, mundic, and peach, and is looking promising; in the 30, west of ditto, the lode is 2 ft. wide, with stones of ore; in the adit east, on the middle lode, the lode is 15 in. wide, with a branch of ore on the south part, worth 2*l.* per fm.

WEST WHEAL JEWEL.—Capt. R Johns (April 16) reports—The winze in the bottom of the 57 fm. level, west of Williams's cross-course, on Wheal Jewel lode, lode not taken down in the past week; in the 57 fm. level, west of Williams's cross-course, on the same lode, the lode is worth 2*l.* per fm. In the deep adit, west of ditto, on the same lode, the lode is producing little tin. In the stopes in the back of the 12 fm. level, west of Pryor's winze, on Tolcarne tin lode, the lode is worth 18*l.* per fm.; the stopes in the back of the same level, east of Pryor's winze, are worth 12*l.* per fm.; the stopes in the bottom of this level, east of Tregoning's shaft, are worth 15*l.* per fm.; the stopes in the bottom of this level, east of Tregoning's winze, are worth 12*l.* per fm.

WHEAL MARY ANN.—Captain P. Clymo, jun. (April 17), reports—The lode in the 50 fm. level, south of Barratt's shaft, is 3 ft. wide, and worth 12*l.* per fathom; the stopes in the back of this level north are looking well. The lode in the 40 fm. level, south of the above shaft, is 2 ft. wide, and worth 18*l.* per fm.; the stopes in the back of this level are looking very well. Pollard's shaft is sunk 11 fms. under the 40 fm. level, and we have 5 ft. more to get to the 50; for the last 6 ft. we have had an elvan course, which has retarded our sinking; the lode in the 40 fm. level, north of this shaft, is 2 ft. wide, and worth 12*l.* per fm.; the stopes in the back of this level are looking well; the lode in the 40 fm. level south is 1½ ft. wide, composed of can and lead, worth 4*l.* per fm. The lode in the 30 fm. level, south of the shaft, is 2 ft. wide, composed of barytes, can, and some lead; the stopes in the back of this level are producing a fair quantity of lead. The lode in the 15, south of the shaft, is 6 in. wide, composed of can and spots of lead. We sampled, on Tuesday last, 67 tons of lead, which will be sold on Thursday next.

WHEAL SOPHIA.—Capt. J. Spargo (April 8) reports—Agreeable to your request, I have inspected this mine, and beg to hand you a few remarks respecting the locality, or strata, that the lodes pass through. My attention was first particularly drawn to the lode when entering the foot of the hills, near the River Tamar, where I found an adit level driven on the course of the lode upwards of 70 fms.; the lode here appears of a very flattering nature, composed of rich gossan, and bright yellow copper, small spots of malacite, carbonate of iron, bright yellow mundic, and small portions of oxide of copper. Although I consider the lode to be of a most promising nature, yet I do not think the strata, at the present depth, congenial for copper; but I find the ground more congenial in the bottom of the shaft, which is sunk about 12 fms. under the adit; the last two fms. sinking appears to be changing much for the better. The declivity of the hill appears, from the tail of the adit up to the shaft, to be a complete cap, or grauwacke, with the exception of a few floors, or layers, of clay-slate; but, notwithstanding, the lode for all the 70 fm. drivage will average more than 5 ft. wide, carrying two well defined walls; I would, therefore, advise the company immediately to stop any further outlay to this depth, as the lode is opened sufficient to show its correct bearings, quality, &c. My advice would be, to sink an engine-shaft, and take the lode at a deeper level, where you will be completely under the uncongenial country the adit is driven in; and it is my opinion, that the lodes there will well remunerate you for the outlay. The gossan lode, being a north underlayer, will form a junction with the above about 20 fms. under the present level. This I consider to be of importance, and ought not to escape your notice, as at that depth there is every reason to expect the lode to run through a soft clay-slate. This change of strata can be seen bearing down from the top of the hill, which, of course, must untottom all the hard rock. I have no doubt, but that you can find levels enough to erect an over-shot wheel—say, 15 ft. diameter, and 8 or 10 ft. in breast—which will be of sufficient power to prove the mine effectually. Furthermore, I beg to state that the lode carries sufficient indications to warrant a farther outlay. I do not see anything unnecessary already done, as the lodes are open by good levels, and properly cut through in different parts of the drivage. In fact, I believe the money spent has been used judiciously, and in a proper miner-like manner.

WHEAL TRELAWNY.—Capt. John Bryant (April 17) reports—Phillips's shaft is sunk 4½ fms. below the 72, where the ground is still favourable. The lode in the 72 fm. level north of this shaft is still large, producing one-third of a ton per fm.; in this level south the lode is 2 feet wide, composed chiefly of can, producing 5 cwts. of ore per fathom. The lode in the rise behind the north end is producing ½ ton of ore per fathom. The lode in the 62 fm. level north is large, with a leader of can and lead, producing two-thirds of a ton per fathom; in this level south the lode is 1 ft. wide, producing silver-lead ores, but not rich; the stopes in the back of this level are yielding a fair quantity of ore. Trelawny's shaft is sunk 14 fms, 4 ft. below the 52 fm. level, where we are progressing satisfactorily. The lode in the 52 fm. level, north of this shaft, is 3 feet wide, composed of compact hornstone, can, and lead, producing 8 cwts. per fm.; the stopes in the back of this level, and in the 42, are rather hard, but at present looking very well for lead. At the north mine, Smith's shaft is sunk 8 fms. below the 30 fm. level; the ground is favourable, and producing one-third of a ton per fm. In the 30 end, north of this shaft, we have no material change; the lode in the winze, south of this shaft, is 2 ft. wide, and producing one-third of a ton of ore per fm. We sampled, on Saturday last, a parcel of ore, computed 105 tons, which will be sold on the 23d. inst.

WHIDDEN.—Captain John Kernick (April 17) reports—The cross-cut is driven north in the shallow adit 10 fms., and 3 ft. from the great tin lode; the end is in favourable ground for driving, getting more wet, and I expect to cut the north lode by the end of May, should its underlay be the same as seen 7 fms. below the surface.

FOREIGN MINES.

ALTEN MINES.—The following is the estimated produce for February:—

Mines.	Tons of Ore.	Per Cent.	Fine Copper.
Raipas	51	7	3·57
United Mines	45	6½	2·92
Old Mine	43	7	3·01
Ryper's	1	7	0·07
Mancur's	2	6	0·12
Michell's	7	6	0·42
Carl Johan's	2	12	0·24
Total	*Tons* 151		10·35

Mining Report, from the 19th February to the 13th March.

Raipas.—The several workings continue to make a slow but favourable development. In the 10 fm. level workings, on Labouchere's, the lode has greatly improved, and we have commenced operations at the 15 fm. level, in the hope of intersecting the same bunch of ore in this part of the mine. Monk's shaft continues in the same limestone stratum, with occasional veins of rich purple ore, but at present devoid of regularity; the prospects are, however, somewhat more promising. The roof stops in the 20 appears also to be increasing in size, and the ore is equally good. In the 20 fm. level cross-cut, Labouchere's lode has not yet been met with, but in the course of a few weeks we propose to adopt some other means for further exploring it. We have now commenced timbering and securing shaft No. 2, and hope to be able to complete the whole of this work against the spring, when we propose picking over the old stull in No. 11 stope, which we expect will yield sufficient returns to cover the whole of the expense. The monthly produce, although below the usual average, is evidently improving, and we fully expect it will hereafter continue to do so. Returns to the smelting-house regular and satisfactory.

United Mines.—The stopes on Ward's lode are somewhat deteriorated, but an improvement in the new sink will enable us to cover every deficiency that may arise in the other workings. At Woodfall's the tributers continue to make fair returns of ore—good quality.

The Old Mine continues to improve, and the returns are highly satisfactory, whilst the quality of the produce continues equally good. The new sink is making but slow progress, in consequence of the hardness of the ground, but the lode is large and productive.

Ryper's.—An improvement is visible in the new lode, from which the tributers make fair returns of ore, of an improved quality.

Mancur's.—The operations at this mine are still very confined, and, in consequence, only a small quantity of ore is produced. We do not expect any improvement will be found before the summer, when the surface operations will be resumed.

Michell's.—The stope on Neller's lode continues to yield remunerative returns, and the prospects are good. The new lodes at this mine are also yielding a small quantity of good prilly ore.

Carl Johan's.—A great improvement has taken place in the sink since my last report; the lode is now almost 3 ft. wide, and composed almost entirely of solid yellow ore.—Notwithstanding the falling off in the returns from Ryper's, Mancur's, Michell's, and Carl Johan's, during the last month, the improvements at Ward's and the Old Mine, as shown by the above estimate, have enabled us to increase the produce, and I hope the result of the assays will even prove the quality better than here represented.

BLAENAVON IRON-WORKS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Having had my eye upon Blaenavon, as my name will denote, ever since it has been a work, I may, perhaps, be permitted to know something of its affairs. I regret to find that Mr. Deakin has again *erroneously* thought proper to ascribe any improvement and alteration in the management of affairs to aught he may have said or written. As my only reason in addressing you is to state facts as they *truly* are, I hope you will give me a little space in your valuable columns. Twelve months ago, the directors engaged a clever and practical gentleman to report fully upon the capabilities of the Blaenavon Works above and underground. From *his* recommendation, they have been induced to manufacture *common* bars, as well as best bars and cable bolt. On account of this, and erecting some excellent coke ovens, they have been enabled to work to advantage cheaper and inferior coals, and produce from their furnaces a far greater quantity of pig-iron at a *very reduced cost*; and I beg leave distinctly to state, that the report recommending this had been received by the directors, and *adopted long before* (to use the mildest term) that exceedingly ill-judged letter of Mr. Deakin's appeared in your columns in October last; and, as he must be aware of this, I am much surprised to find that he should again be taking credit to himself for any alterations that may have taken place at the works. He must be aware that these cheaper coals were tried some seven years since, and *signally failed*. They could not be worked to advantage till coke ovens were erected, and a market sought for an inferior description of bar-iron, to what the Blaenavon Company had ever before manufactured; it is, therefore, altogether unfair to compare the work of the furnaces *now* to that of former years. But while I make these facts known, I wish it to be distinctly understood, that a certain quantity (as required) of Blaenavon pig and bar is still manufactured equal to anything that ever yet has been made—that whilst the company have at length found it to be to their advantage to make one part of inferior quality, still the other part is kept up to its well-known standard, *and ready to carry the day, as it ever has, in strength and excellence of quality.*

Mr. Deakin has thought proper to say that he has been a *marked* man; I can of truth say in no other respect than in having his own way in everything—always uncontrolled power. He has been the manager's manager, and the master of the directors, and because they have *at length been sensible* enough to discover that this should not be so, he must not feel angry with them for this *valuable* discovery. I have very great pleasure in saying to the shareholders—"*take courage*, a better day will yet come; is already dawning upon poor Blaenavon. She will yet pull through, and flourish with the first rank; Have every confidence in your committee of management; they are going the *right way* now, and doing right well for you. To them much credit is due, but more especially to one gentleman, a near resident and constant attendant at the works." I must beg to apologise to you, Sir, for taking up so much of your valuable space; my only wish is to state things as they *really are*, and to "render unto Cæsar the things that are Cæsar's."—THE OLD BLOREUGE.

Abergavenny, April 18.

THE BLACK CRAIG MINES.

SIR,—In the Journal of 31st March, your correspondent, "A Miner," attempts to reply to the question of "Where is the engine to be fixed at these mines?"—and enters into estimates as to the probable expenditure requisite to carry out the plan he suggests. I have an objection to statements of this sort being paraded before adventurers, in commencing operations upon an old mine—first, because the sums set down are generally inadequate to the work required; and, secondly, too much is often attempted, in complicated engineering, before the merits of the undertaking are fully known. Is "A Miner" really serious in stating that a rock-shaft can be sunk through to meet the old engine-shaft at the adit some 85 fathoms, the pitwork drawn, cleaned, and reset, and the water pumped out for 100*l.* or 150*l.*? If the adventurers adopt the plan at all, it will be prudent for them to be prepared with at least five times the amount.

The question may be asked whether "A Miner," has ever seen the bottoms of the mine, or is acquainted with the nature and character of the lode *under the adit*, at the different points referred to in his communication? If such is the fact, the adventurers would be wise to consult him; but, if otherwise, his suggestions should be received with caution. The Welsh shaft is 75 fathoms perpendicular, sunk all the way in rock, taking the lode at the very bottom. The shaft is small above the adit, but roomy enough under, and stands in the centre of *the known productive ground.* With a little dressing down, I think an ingenious pitman, under the eye of an experienced manager, would find little difficulty in fixing the necessary pitwork in the Welsh shaft.

Ireland, April 18. A FRIEND TO MINING.

[ADVERTISEMENT.]

VALUABLE MINERAL PROPERTY IN CARMARTHENSHIRE.

SIR,—Having seen, by your valuable Journal, the great interest which you take in making known to the public discoveries of minerals, and their localities, I beg leave to state, that various veins or seams of anthracite coals and iron mines have recently been explored in the vale, and on the banks of the Aman, in this parish; and upon the lands now in my occupation there is a most eligible place for erecting blast furnaces and forges. Upon the lower part of those lands there is a meadow, of about four or five acres of level ground, adjoining a turnpike-road leading to the Llanelly Railroad, and within the distance of about half a mile from the said railroad; and there is another meadow, of about three acres, to the south of the lower meadow, and contiguous to it, and at an elevation of about seven or eight yards above the lower meadow, where a reservoir may be easily made to receive the waters of a brook on the same lands, for the purpose of working the machineries of the blast furnaces and forges. And there is a most excellent quarry of building stone upon the spot; and there is about four or five miles of the place with a good road to the lime-kilns. There are, likewise, several veins of anthracite coals under those lands, of various thicknesses, one being three feet thick, with another lower vein of the thickness of six feet, besides several courses of iron ore in balls. There is one vein, also of iron ore, called the black-band, of the thickness of about 15 or 16 inches. There are very convenient situations adjoining the lower lands for erecting dwelling houses for workmen and others, with suitable gardens to be attached to each house. And as the quantities of iron ores and coal veins are very considerable here, a company that may take a lease of them would, undoubtedly, make a very beneficial concern of it, as they are situated so near to the Llanelly railroad, at the distance of only about eight miles from the town and sea port of Llanelly, and in a fine open country.

Maesquarre, Bethos Parish, Carmarthenshire, April 13. GEORGE WILLIAMS.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

HEIGNSTON DOWN CONSOLS.—They have made a very important discovery, the lode having improved from 5*l.* to 30*l.* per fathom.

NORTH FRIENDSHIP.—They are making rapid progress in sinking, and the lode indicates strongly that copper is not far distant.

WHEAL BAL.—As but little is generally known about this highly interesting and productive tin district of the most western part of Cornwall, I will commence by an account of this mine, which will, in a short time, become a profitable undertaking. We have two tribute pitches on Wheal Bal lode, one of which is in the bottom of the 45 fm., or deep level, the other on the back of the same, and between that and the 34 fm. level, let at 14s. in 1*l.* We have two more on the Sand lode, which is 16 fms. south of Wheal Bal lode, one of which is let at 18s. 6d. in 1*l.*, and the other at 15s. It was deemed necessary to lay open this part of the mine, in order to be enabled to work other parts of the sett, which is considered of much more importance; and, to effect that object, we had to bring in a deep level the distance of 30 fms., at the expense of about 200*l.*, and sunk a shaft from grass to that level, by which we are enabled to work the tribute pitches, and laid open a long run of ground, full 120 fms. in length, under the old men's workings, all of which can be worked without the aid of machinery, and I have no hesitation in stating that every fathom of it is tribute ground, which far exceeded our expectations. As respects Wheal Bal lode, and the workings thereon, I will give you, as well as I can describe, the account of work done, and the future prospects. We have taken up four shafts on the course of this lode from the surface, and have sunk them to the shallow adit, two of which is carried to the deep level; and in order to lay open the eastern part of the sett, it was thought best to bring in the deep level under the old men's works, adjoining Wheal Widden, where there is a splendid tin lode (I think the richest tinstuff I ever saw), on the whole, I should say, worth from 3*l.* to 4*l.* per sack (that is 14 gallons). This place in our sett presents considerable promise, which has not been worked these last 60 years, and, when worked, only by horse-whims and winzes. We are now taking up the fifth shaft, which will be appropriated for an engine-shaft ultimately, for the time our deep level is suspended, as we fancy it better to prosecute the 34 fm. level east, and bring the same under the shaft alluded to, which is now within 2 or 3 fms. of it, from whence, I have no doubt, we shall raise a great quantity of tin: in fact, we have been doing nothing but getting the mine in good working order, and, during the five years we have been working (notwithstanding having done so much dead work in the mine), the adventurers are out of pocket only 250*l.* Another reason for stopping the deep adit is, that there was not sufficient tin in her to make a profit; and being hard ground, and having upwards of 90 fms. to drive to come to the spot where we have a moral certainty of finding great quantities of tin, at little expense, it was thought adviseable by-and-bye to erect a 24-in. cylinder steam-engine, which can be obtained very cheap; and by so doing we shall have a great advantage in driving the deep level, because we may drive each way to meet in it, and no doubt realise a profit, provided we should find the ground as we expect. With this small engine we shall be enabled to work all the lodes in the sett, and particularly one about 30 fms. south of Wheal Bal, a parallel lode to the Bal lode, known by the name of Movah men's bunch, which has not been wrought on more than 20 to 30 fathoms from the surface; and it is a well known fact that the tin in this lode is not inferior to any other in the world, and is, therefore, considered a first-rate speculation, and as the ground in this part of the sett is very much softer than further to the westward; I may say, ground from 50s. to 60s. per fm.; precisely the same sort of country as Balleswidden. The vast extent of the sett, and the cheering prospects afforded, render it a very desirable place to invest a small capital, as I am sure, comparatively speaking, very little or no outlay will be required.

SHEFFIELD MINING COMPANY.—The recommencement of the carrying on of the level or adit by this spirited company at Eyam, promises prospective prosperity to the inhabitants of this once and still famous metallic district. An amicable arrangement of differences between the company and the rector of Eyam is as desirable as it will be satisfactory; for common sense points out the certainty of an action at law causing still more perplexity to both sides, in addition to a great and *bond fide* waste of money.—*Sheffield Times.*

LITERARY NOTICES.

The Mining Almanack for 1849. Compiled and arranged by HENRY ENGLISH, Mining Engineer. London: *Mining Journal* office, Fleet-street.

The title of this volume, which has just been issued, conveys but imperfectly a notion of its varied character and useful contents, and the reason is, doubtless, that mentioned in the "introduction"—viz.: that "the work has extended far beyond its original limits, and thus become a manual of science rather than an almanack." The labour and care bestowed on it will be sufficiently evident even on a slight inspection of the matter brought before the reader, and that the work is much more than a mere compilation is apparent from the fact that upwards of 300 pages are devoted to a series of original papers on mineralogy, metallurgy, and other subjects of interest to the mining world. Among these papers may be mentioned a *resumé* of the laws affecting the Stannaries' Courts, and a collection of other important papers, including abstracts of Acts of Parliament relative to mining and joint-stock companies. The names prefixed to the original papers, the writers of which are well known in the scientific world, afford some test of the value of their respective communications, and we cannot doubt that they will be perused with interest and advantage. The usual information of an almanack given in the work forms, in fact, its most insignificant portion; for, in addition, there will be found a large mass of tabular, statistical, and miscellaneous matter, illustrating most fully the nature and peculiarities of mining enterprise. "The Mineral Topography of Great Britain," by A. W. Tooke, M.A., F.G.S., is a valuable contribution, and replete with scientific information. The "Glossary of Mining Terms," also comprised in the work, cannot but be useful and acceptable; and the list of the members of scientific bodies, drawn up with every care and attention to ensure accuracy, is a feature of obvious utility and convenience. Two extracts from the original papers will be observed in the present Number, and we shall have frequent occasion, in future Numbers of the Journal, to draw upon the interesting matter presented in this portion of the Almanack, for, we trust, the benefit of our readers. The volume is dedicated, by permission, to Prince Albert, who is known to take no small interest in mining, in connection with other scientific subjects; and the list of subscribers to the work includes a host of names associated with mining pursuits and engineering science.

CONDURROW MINING COMPANY.

At a meeting of adventurers, held at the mine, on Monday, the 16th inst., a statement of accounts was produced, showing—By ores of tin and copper sold and accounted for, 1429*l.* 2s. 9d.—Labour cost, Feb. and March, 1049*l.* 15s. 7d.; merchants' bills, 270*l.* 16s. 8d.; dues of ores sold and existing on the burning-house floors (valued at 167*l.* 10s. 4d.), 1-20th of 1429*l.* 2s. 9d. = 71*l.* 9s. 1d.—leaving balance, 37*l.* 1s. 10d.; add balance from last account, 199*l.* 17s. 5d.—shows present balance in favour of adventurers, 236*l.* 19s. 3d.

The accounts having been examined and passed, the following report from Capt. Nicholas Vivian was read to the meeting:—

April 16.—The sump is now at the depth of 8½ fms. below the 70, and may be at a depth to extend an 80 fm. level next month. It has been productive of tin and copper ore from the 70 downwards, and has been improving in value in every fathom of sinking. It is now worth 40*l.* per fm.—that is to say, for 12 ft. in length, the lode is 3½ ft. wide, producing tin and ore—tin at present preponderating. The 70 east is driven 27 fms.; the first 16 fms. through very productive tin ground, the last 9 fms. through ore ground which has yielded 90 tons of ore, but it should be understood that the level has been driven 9 ft. high. There is a part of the lode standing to the north which will yield 4 tons of good ore per fm.; whether this will be found a distinct lode, on the course westward, remains to be proved; the winze, which is yet 8 fms. before the end, produces 4 tons of good ore per fm. The 70 west was very productive of tin and ore from the shaft for 12 fms. in length, but has been poor for the last 8 fms., otherwise the points on this lode continue the same, and there is no alteration worth naming on the Llandow'r lode, except in a winze sinking under the 30, east of Pryce's shaft, where there is a very promising lode, yielding 3 tons of ore, at 5*l.* per ton per fm. We are carrying on very extensive tutwork, opening a great deal of ground, and rapidly developing the resources of the mine.

KINZIGTHAL MINING COMPANY.

The annual meeting of this company was held at the offices, Adelaide-place London-bridge, on Friday (yesterday).

JOHN MASTERMAN, Esq., took the chair, when Mr. CAPPER (the secretary) read the following REPORT.

In submitting to the shareholders the second annual report, the directors have to state that, since the last meeting, workings have been carried on in five mines—viz.: the St. Michael, Herrensegen, and Frederick Christian, in the Schappach district, and the Wheal Capper and Wheal Maria, in the Wittichen district. In the St. Michael it was stated, last year, that the directors were preparing to prove whether the lode, which at 13 fms. from surface was 3½ ft. wide, composed of gossan, soft spar, and rich stones of copper ore, would at some greater depth improve in size and value. To ascertain this, arrangements were made, with the concurrence of Professor Atwood, to erect a water-wheel of sufficient power for that purpose; but, on the 9th July, without any previous warning, the works were suddenly checked by the ground around the wheel pit running together. The operations of several weeks having thus been destroyed, after carefully considering the uncertain and dangerous nature of the ground, it was determined to erect a turbine, which, with the water-power already obtained, would drain the mine to a depth of 70 fms.; whilst the water-wheel would become available for draining the Frederick Christian. The turbine was, consequently, at once ordered; but it did not commence pumping out the water till the middle of October. Since which time it has continued to work most satisfactorily; the sinking has been carried on to a depth of 23 fms. on a most promising lode; and the directors fully hope, at a greater depth, to find the lode consolidated into a course of ore, and thus have a lasting and remunerative mine. In the Frederick Christian, the workings were suspended in February last year; but the water-wheel, originally ordered for the St. Michael, and rendered useless for that object, as above stated, suggested a ready means of proving this mine also in depth. A sump winze is now being sunk with all speed, at a spot where a contra lode, running north and south, is falling in with the Frederick Christian lode, and facility thus afforded for further proving the Frederick Christian lode west and the Herrensegen lode east. No very great results can be expected from this mine till the shaft is sunk to a considerable depth; but there is every prospect of it ultimately becoming very valuable. At the Herrensegen, the only work done has been driving and stoping east of the lead rise with two men, who have raised about 15 tons of lead ore.

With respect to the silver and cobalt mines in the Wittichen district, the directors regret that the pocket of native silver in the Wheal Copper, reported at the last meeting, did not hold down for any depth, to make it as valuable as they had hoped. A considerable quantity of ore, however, has been raised from the different lodes, consisting of silver and earthy cobalt, with a little native silver. The question of smelting and reducing these ores economically, has, for a length of time, occupied the serious and constant attention of the directors, and they will lose no opportunity which may enable them to render available at a moderate outlay, the more valuable ores in stock.

From this short description of the operations carried on since the last meeting, the shareholders will perceive that although through accidental delays the wished-for results have not been arrived at so soon as was expected, the prospects and position of the company remain highly favourable in many respects. In the copper mine the progress made since October (when the sinking was first commenced) has been satisfactory, the lode continuing most promising for making ore in depth, and the shareholders will bear in mind, that a steady increase of copper ore would soon pay a handsome dividend, independently of the results which would follow the discovery of a good pocket of silver ore.

The directors have the pleasure to announce that the balance of cash in hand, and the amount of ores in stock, are sufficient to carry on the works until the end of the year, and the strictest economy, compatible with a fair trial of the property, has been enjoined on the managing director and the mining captains. The board cannot allow this opportunity to pass without an expression of their thanks to Sir Alexander Malet, the British ambassador at Stuttgardt, for the great interest he has taken in their operations, and the assistance he has rendered upon every occasion that has presented itself. The balance-sheet has been made up to the end of February, and having been duly audited, is annexed to this report.

From the balance-sheet laid on the table, it appeared that the company had received 10,571*l.* 12s. 1d., and had a balance in hand of 662*l.*, besides a large amount of silver ore not yet realised.

The CHAIRMAN said, that as soon as they got into the pocket of exceedingly rich native silver spoken of, they would quickly realise a large profit, and be able to declare a dividend. Even should their discoveries be confined to cobalt ore, the prospects of the year would have a very satisfactory result. They had an accumulation at present of about 23 tons of this silver cobalt ore, as it was found to be more economical to attempt its reduction when in large quantities. The directors had communications with parties as to some smelting-works, which would answer their expectations, and could be obtained on fair terms, and save any further outlay for the purpose. They hoped very shortly to make such a satisfactory arrangement with these smelters, as would enable the directors to get a very fair return of silver for the cobalt ore. Before this they had expected to get at a large pocket of silver; but, in the meantime, they must be content with the cobalt ore, and this was still only a fugitive source of profit. Things were different at the copper mine, where they had sunk to the 23 fm. level, and the prospects were such in the opinion of the mining captain (and in his conclusions he was supported by the views of Mr. Tilley and Mr. Seaton, who had as much knowledge of mining as any one in Cornwall), that a very lucrative production of copper might soon be expected. There would, no doubt, ere long be such a steady increase of copper ore, as would pay a handsome dividend, and would give to the company something of a permanent character. They had also in view the pocket of silver, which would considerably add to any such dividend. He was happy to inform them that the directors had money enough to go on till the end of the year. In concluding his remarks, he (the chairman) moved the adoption of the report.

Mr. HEMMING asked, what the expenses were monthly?—The CHAIRMAN said, about 200*l.* The directors paid their way as they proceeded—so that they had no liabilities of moment. If they should be at a loss for money, they must make use of that 20 tons of ore.

Mr. SHEPPARD asked, what the return was from the ore?—The SECRETARY said, about 28 per cent. on the undressed ore submitted to trial.

The CHAIRMAN said, that all the experiments of Prof. Merlin had proved to him that they had a very excellent copper mine. (Hear, hear.)

The SECRETARY observed, that the copper was much richer in carbonates, and that the native copper was found in globules. The adit level was very high in this mine; they had not yet got to the level of the sea.

The CHAIRMAN was happy to say, that the machinery they had was sufficient to carry them 30 or 40 fm. lower.—The report was adopted unanimously.

Mr. WILSON moved a vote of thanks to the chairman and directors, which was seconded by Mr. HEMMING, and passed unanimously.

Mr. SHEPPARD moved a vote of thanks to the secretary, which was also passed unanimously, and the meeting separated.

WHEAL FORTESCUE MINING COMPANY.

A general meeting of shareholders was held at Tavistock on Friday, the 13th of April,—JOHN RUNDLE, Esq., in the chair.—The CHAIRMAN reported that arrangements had been made for a grant of West Wheal Maria sett to the present company.—A call of 1*l.* per share was made, and the accounts were examined and passed, showing a balance of 95*l.* 3s. 9d. in favour of the company.

The following is the report of Captains S. Seccombe and J. Key:—

April 13.—The engine-shaft is sunk 19 fms. 3 ft. 6 in. below the 20 fm. level, leaving 2½ ft. more to sink to complete the shaft to the depth of 40 fms. below the adit, or about 50 fms. below the surface. When the 40 fm. level is reached, we recommend that two cross-cuts be commenced from the bottom of this shaft—one north, towards the Great Wheal Maria lode, and the other south, to lay open the lodes south of the engine-shaft. From the very kindly appearance of the Great Maria lode, which we cross-cut into at the 20 fm. level, we fully calculate on finding it productive at the 40 fm. level when reached; and we also entertain the same favourable opinion of the south lodes, and consider it of great importance that these lodes should be intersected by a cross-cut at this level, more especially as the sett of West Wheal Maria is now granted to Wheal Fortescue Mining Company. This consolidation has, in our opinion, very much improved the property of the company. The length on the course of the lode, between the two Marias, was, in the former grant, very limited, but, from the present arrangement, it is now very extensive.

WHEAL SETON MINING COMPANY.

A general meeting of adventurers was held on Monday, the 9th inst., when the accounts (as published in last week's Journal) were received, showing a balance of 169*l.* 3s. 5d. in favour of the company. A resolution was passed, increasing the number of shares from 99 to 198. The following report of Capts. Paul Rabey and Stephen Lean, was presented.

Bull's shaft, sinking below the 100 fm. level, is down 5 fms.; ground still favourable. The ground in the north cross-cut, at the 100 fm. level, is more favourable for driving. At the north caunter, in the 90 fm. level west, the north part of the lode is 6 ft. wide, composed of spar, mundic, and stones of ore; we have driven south of this part 9 ft., and have cut a branch of ore 1 ft. wide, and from its inclination it will, in a fm. or two, unite with the north part, which, no doubt, will improve the lode. The rise in the back of this level has been communicated to the winze sinking below the 80 fm. level in the past month, and we are stoping west from this winze, and the lode is producing 12 tons of ore per fm. The 90 fm. level has been driven through the cross-course, and a lode has been

cut on the eastern side, producing about 3 tons of ore per fm. In the 80 fm. level west, the lode will produce 8 tons of ore per fm.; the stopes in the back of this level will produce 6 tons of ore per fm. In the 70 fm. level west, the north part is 3 ft. wide, containing stones ore, with every prospect of a further improvement. The lode in the boundary winze sinking below this level, will produce 2 tons of ore per fm.—down 3 fms.; the stopes in the back of this level will produce 14 tons of ore per fm.; the lode in the boundary winze, sinking below this level, on the south part of the same lode, will produce 3 tons of ore per fm.—down 2 fms. The 60 fm. level, west from Bull's, has been communicated to the 60 fm. level, east of Tilley's, in the past month; the lode is 2½ ft. wide, composed of spar and stones of ore; the stopes in the back of this level will produce 6 tons of ore per fm. In the 60 fm. level, east of Tilley's, since the communication has been effected with the last-mentioned level, we have taken down 2 fms. for the lode, which will produce 4 tons of ore per fm. In the 60 fm. level, west of Tilly's, the lode is 2½ ft. wide, containing stones of ore; the end is in disordered ground, the upper part of it being in elvan and the lower part in killas. The lode in the winze sinking below this level, east of Tilly's, is 4 ft. wide and unproductive. In the 70 fm. level, west of Tilly's, the lode is 7 ft. wide, and will produce 3 tons of ore per fm., with every appearance of further improvement; in the 70 fm. level east, the lode is 5 ft. wide, and will produce 1 ton of ore per fm. The stopes in the back of the 50 fm. level will produce 4 tons of ore per fm. The ground in the 60 fm. cross-cut, north of Tilly's, is still favourable for driving The stopes in the bottom of the 60 fm. level, at the south caunter, will produce 3 tons of ore per fm.; the stopes in the back of the 50 fm. level, will produce 2 tons of ore per fm. In the 90 fm. level west, on Kneebone's branch, the lode is 5 ft. wide, and will produce 3 tons of ore per fm., and looking very promising. The lode in the rise in the back of the 60 fm. level, at the middle branch, is 3 ft. wide, and will produce 3 tons of ore per fm.—up 5 fms. Cocke's shaft, sinking below the 54 fm. level, is down 6 fms.—ground favourable. The ground in the north and south cross-cuts, in the 44 fm. level, is favourable for driving.

EAST POOL.—A meeting of adventurers took place at the account-house on Tuesday last, when the following statement of accounts was allowed:—To balance from last account, 135*l.* 4s.; costs and merchants' bills, 1047*l.* 6s. 3d. =1182*l.* 10s. 3d.—By ores sold (less dues), 923*l.* 11s. 1d.; water drainage, 120*l.*; debts from tributers, 1*l.* 1s. 6d.=1044*l.* 12s. 7d.—leaving balance against the mine, 137*l.* 17s. 8d.

WHEAL MARY (Redruth).—A meeting of adventurers was held at the account-house on the 11th inst., when the accounts, of which the following is an abstract, were passed, and a call of 10s. per share was made:—To balance from last account, 219*l.* 4s.; costs and merchants' bills, 1087*l.* 13s. 4d.=1306*l.* 17s. 4d. —By ores sold (less dues), 444*l.* 10s. 11d.; call of 10s. per share in Feb., 495*l.* =939*l.* 10s. 11d.: balance in favour of the purser, 367*l.* 6s. 5d.

WHEAL SPEED.—A meeting was held on Tuesday, at this mine, Breage, Marazion, for the purpose of setting her to work again, when nearly the whole of the shares were taken up, and a call of 50s. per share was agreed to, for commencing immediate operations.

INCREASE OF MINING SPECULATION.—We are glad to hear that several new mining speculations, or rather renewals of old works, are about to be commenced in the western district of Cornwall. In the neighbourhood of Helston, we are informed, three "bals" will shortly be in active operation, as many engines having been recently purchased for that purpose. This will be the means of affording considerable employment, and causing the circulation of large sums of money, especially in the immediate locality of the mines. We sincerely trust that the adventurers also will reap their deserved reward, in the shape of good periodical dividends. Large sums of money have been won and lost in mining, as well as in many other speculations; but those who possess the means should remember the old adage of "nothing venture, nothing gain." Perhaps the following paragraph may tend to encourage the timid. We congratulate the worthy and spirited adventurers, and sincerely wish them many such gratifying meetings:—"At a meeting of the adventurers in the Levant Mine, held at the Union Hotel, Penzance, on Monday last, the usual two-monthly accounts were audited, when the gratifying result was announced of a dividend of 12*l.* per share—being a total of 1920*l.*; while the last balance in the purser's hand was increased from 600*l.* to 1100*l.* After which the fortunate shareholders dined together; the dinner consisting of every delicacy of the season."—*Penzance Journal.*

THE VICTORIA IRON-WORKS.—These works, as we have already noticed, have passed from the Monmouthshire and Glamorganshire Banking Company into the hands of the Ebbw Vale Company, on terms mutually satisfactory.—Messrs. Darby, of Coalbrook Dale, are the proprietors of Ebbw Vale; they have, likewise, two large concerns in Bristol. A correspondent states that, in a few months, their works in Wales will make 150,000 tons of iron per annum; and that at the present time they are making five miles of railway iron every week.—*Cambrian.*

BRAZILIAN MINES—SLAVERY.—The annexed communication has reached us (*Morning Post*) from a much respected correspondent. The subject matter is not one, in an isolated point of view, which ought, perhaps, to have insertion in our City article, but, bearing so closely as it does on a very important branch of our commercial relations, it may be considered more as a mercantile than political letter, and, consequently, entitled to our best consideration:—"SIR: Allusion having been made, in your valuable and always important City correspondence of Wednesday, to a report which, I trust, is well founded, of the intention of the Brazilian Government to grant emancipation to the slaves, I cannot refrain from addressing a few words to you as the constant and unflinching friend of African and other slaves, in the hope that the example of this country, now to be followed by Brazil, may have the effect of removing that blot on human nature—the continuance of traffic in slaves. The legislative enactments on this subject prohibit Englishmen from purchasing or acquiring slaves in any part of the world. Its letter has been kept, for none have been purchased by the mining companies in Brazil; but its spirit is openly evaded by the hiring of slaves for terms of years. This has been done to an enormous extent by the different associations presided over by London capitalists, and my attention was particularly drawn to the subject by an article in the *Mining Journal* of last Saturday, in which it was mentioned that the mortality amongst the blacks in Brazil was very great. Eight deaths had occurred in a fortnight out of one thousand persons belonging to a mining company. By the published reports, it also appears that new slaves were daily expected to fill up the death vacancies, to swell the profits of the shareholders; and it is stated, that if they had more hands, the returns would be considerably augmented. It is, in fact, simply weighing the lives of the blacks against gold, the balance in value being the difference in the dividends to the whites at home. If this state of things is to continue, it would be far better for the slaves themselves that the Act above referred to should be repealed. The companies would be allowed to purchase slaves, and it is only natural to suppose that more care would then be taken of these wretched creatures than of the slaves, or others, hired for a time. There is some reason, therefore, to believe that the mortality would be less, and the slave trade could not be more encouraged; for it makes no difference whether the blacks, on arrival in Brazil, are purchased by Englishmen direct, or bought by Brazilians, to let out to the companies. Even the Brazilian masters cease to take much interest in the slaves when let out for six years' annual payment, or to care whether they live or die. The first three payments always refund their cost. The last three are profit, with the reversion of any who survive. It is to this most shameful and open evasion of the Act of Parliament on the part of these English companies that it is desirable the attention of the Legislature should be directed, and the hope that this communication in your columns may be of service in this respect, induces me to encroach on your attention and space.—PHILO-AFRICANUS: *City, April* 20."

RAILWAY TRAFFIC RETURNS.

Names of Railways.	Lgth. Rway.	Present actual cost.	Price per share	Div. 1848	*Traffic* 1849	*Returns* 1848
Belfast and Ballymena	37½	——	21½	*£ p. c.*	£ 556	—
Birkenhead, Lancashire, & Chesh.	19	1,088,804	37	5 *p. c.**	915	674
Bolton, Blackburn, & West Yorksh.	14	786,384	7½	—	458	—
Caledonian	141	4,865,135	26¾	—	5210	3629
Chester and Holyhead	84	3,014,602	17½	4	1377	—
Dublin and Drogheda	35½	774,875	33½	—	733	737
Dublin and Kingstown	7½	395,915	—	—	753	685
Dundee, Perth, & Aberdeen Junc.	47½	544,554	24½	8	1071	857
East Anglian (Lynn to Ely)	67½	1,167,104	3½	—	666	474
East Lancashire	50	2,628,519	17½	5	2678	1119
Eastern Counties and Norfolk	309½	12,027,069	8½	4	13910	13556
Eastern Union	50½	1,712,703	13	—	1324	1036
Edinburgh and Glasgow	57½	2,644,378	42½	6	3810	3386
Edinburgh and Northern	78	2,232,115	12½	4*	1935	1151
Glasgow, Paisley, and Ayr	102½	2,286,353	57	4	2712	2206
Glasgow, Paisley, & Greenock	23	848,328	13¾	4	925	1084
Gt. Northern & East Lincolnshire	110	4,255,171	11½	5*	1989	—
Gt. Southern & Western, Ireland	131	2,844,997	34	4*	3743	2116
Great Western	305½	11,608,815	94½	7	20018	19440
Kendal and Windermere	10½	174,500	25¾	—	139	127
Lancaster and Carlisle	70	1,476,102	54	4	2223	1672
Lancashire and Yorkshire	206½	9,218,450	72	6	12240	9059
London and North Western	435	25,077,942	132½	7	40818	38012
London and Blackwall	4	1,299,675	5¾	1-12	681	804
London, Brighton, & South Coast	162½	6,382,281	39½	2½	9565	8301
London and South-Western	216½	7,510,589	37	6	9169	7847
Londonderry and Enniskillen	14½	171,026	16	—	158	167
Manchester, Sheffield, & Lincolnsh.	91½	6,048,679	36¼	5	3406	2047
Midland Company	471	14,042,340	74¾	6	20486	19861
Midland Great Western (Irish)	50	725,332	23	4*	1367	978
North British	99	3,163,450	14	5	2798	1919
Scottish Central	45½	1,364,228	24	—	1054	—
Shrewsbury and Chester	47	969,618	18½	5	1466	589
South Devon	53½	1,909,232	16½	—	1769	937
South-Eastern	165½	8,116,914	22¾	6¾	9019	7703
Taff Vale	38	879,110	—	6½	2028	1603
Ulster	36	684,684	45½	—	—	849
West Cornwall	13	——	——	—	279	—
Whitehaven Junction	12	150,879	109	3	197	167
York, Newcastle, & Berwick	269	6,827,849	23	8	11551	10105
York and North Midland	258½	4,983,618	40½	8	6697	7582
FOREIGN RAILWAYS.						
Amiens and Boulogne	76½	573,338	8½	4	1487	972
Dieppe	26	——	—	—	444	—
Dutch Rhenish	57½	——	5	—	930	845
Montereau and Troyes	71½	——	—	—	681	—
Northern of France	211	2,000,000	11½	—	14089	10428
Orleans to Bourges (Central)	107½	——	—	—	2567	2470
Orleans to Tours	72	600,000	32½	6	3076	2310
Paris and Orleans	82	2,011,720	34	12½	8707	6754
Paris and Rouen	85	2,092,916	22½	—	5899	2498
Rouen and Havre	59½	——	11½	—	2568	1097
Strasburgh and Basle (monthly)	88	——	6	—	5040	5394
West Flanders ..... (ditto)	—	——	1½	—	997	—

* Interest.—Total for last week, £202,610, being an increase of £20,824 over last year.

MANUFACTURE OF IRON—BRITISH GOLD AND SILVER.

[Specification of patent granted to John Davie Morris Stirling, Esq., of Black Grange, N.B., for improvements in the manufacture of iron and metallic compounds. Enrolled April 12.]

In this specification Mr. Stirling refers to a patent granted to him on the 29th of June, 1846, for mixing malleable iron with cast-iron, and states that the present invention consists in improvements in the manufacture of malleable iron, and of combinations of malleable and cast-iron, and, in certain alloys of malleable iron with other metals, of cast-iron with other metals, and of malleable and cast-iron with other metals. With regard to the malleable iron the invention consists in mixing malleable iron scrap with pig iron in the pig bed, and then melting and remelting the same in any convenient manner. To a given quantity by weight of white iron he uses from $\frac{1}{20}$th to $\frac{1}{3}$th or even $\frac{1}{2}$th of malleable iron, and proceeds by placing the malleable iron in hollows in the pig bed, and thus obtaining a certain degree of incorporation; when he boils and puddles the iron in the ordinary manner; or, he mixes the iron scrap with the malleable iron, by converting them in a furnace, (the ordinary reverberatory or air furnace for instance) and then running out the melted metal and puddling it. The maximum quantity of malleable iron scrap to be used, he states, is difficult to determine, owing to the varying qualities of the cast-iron; but he generally finds that, with the inferior kinds, $\frac{1}{4}$th produces good malleable iron. With the better kinds of cast-iron he uses a larger proportion of scrap iron; but he seldom uses less than one-tenth.

Refined iron may be added to the malleable iron thus produced, if desired.

Steel scrap may also be used with beneficial effect.

Tin may also be mixed with the malleable iron thus produced, block or grain tin being preferred, in the proportion of $\frac{1}{200}$th part of tin, which will produce a hard metal, well suited for the tops of railway bars, &c.; but Mr. Sterling states, that he has found $\frac{1}{100}$th part to produce a metal which, although it yields a crystalline fracture, is of very seviceable character.

Antimony, arsenic, and bismuth, may also be used.

Zinc, and its oxides, &c., may likewise be made use of, either with or without malleable iron scrap. Is is preferred to use zinc in the form of calamine, $\frac{1}{200}$th part being the proportion adopted.

Copper is likewise mentioned as capable of being adopted, as also manganese, in the state of black oxide.

An alloy of iron and zinc may be obtained as follows:—If a cupola furnace be used for the preparation of the malleable iron before mentioned, after the metal has been run out, such a quantity of zinc is introduced into the furnace, as that the iron which remains adhering shall be in the proportion of from 4 to 7 per cent.; this is to be melted together, and formed into an alloy. An alloy of iron with other metals, having the appearance of gold, and which the patentee terms *British gold*, is obtained by the combination of the above-mentioned alloy of iron and zinc with an alloy of copper and manganese, in the proper proportions, according to the colour desired to be obtained.

An alloy of iron with other metals, for the purpose of producing a compound metal having the appearance of silver, is obtained by the combination of the above-named alloy of iron and zinc, and an alloy of copper and nickel, or of copper, manganese, and nickel.

The specification does not set forth any separate claim. The above are the main features of this invention; but as it is of some length, the document at the Chancery Enrolment Office must be referred to, for the precise details, the regulations of that office not permitting a copy or note thereof to be taken.

Patent-office and Designs Registry, 210, *Strand, April* 18.

SOUTH AUSTRALIA.—We have advices from Adelaide up to 24th January, by which we learn that freights for ore had become universal, as the Burra Burra Company did not anticipate taking up any more vessels, their smelting-works at the mine being expected to be in operation in a few weeks. The dispute between the miners and the directors had been arranged, and the men were in full work. The quantity of ore which left the mine for the week ending 6th January was 324 tons, and the quantity arrived at the port during the same period was 500 tons, and shipped 888 tons. The chairman (C. Beck, Esq.), with some of the directors, had left Adelaide for the mine, to receive the Governor and his lady, who were about paying a visit to this wonder. Burra Burra shares were quoted 125*l.*; Princess Royal, 10*l.*; Adelaide, 1*l.*; Kapunda, 2*l.*; Enterprise, 1*l.* 10s.; Paringa, 2*l.* 10s.; Port Lincoln, 5*l.* 5s.; Wheal Gawler, 20*l.*; Prince Albert, 2*l.* Nothing particular with reference to the other mines. The London Company were raising small quantities of ore. A meeting was about being held for the purpose of forming a company for a railway from the port to the town, which the colonists thought should be accomplished without "foreign aid"—this move was occasioned by a rumour that steps were being taken by parties in England to form a company for that purpose. The colony was progressing rapidly; the clouds which spread over the mining interest for a time had been dispelled; labour was still wanted; and public confidence was again restored. A Government land sale had been held at the Court-house, which was well attended, when 4659 acres of suburban and country lots were sold for a total sum of 5658*l.* 9s. At this land sale the trustees of the Mount Remarkable Mining Company secured, for 170*l.*, the little peninsula of 100 acres at Port Germain, near the head of Spencer's Gulf. Money, which had been for some weeks scarce in the colony, was again becoming plentiful.

WESTERN AUSTRALIA.—Accounts from Swan River are to the 15th of December. Several exploring parties had taken place, and one of these parties, under Mr. A. Gregory, had returned from the northward on November 12th, having discovered a large tract of fertile land in the neighbourhood of Champded Bay, estimated to contain 300,000 to 400,000 acres of land, superior to that of the York district. During the exploration, many indications of coal were observed, and plumbago and several garnets obtained. Specimens of ores, resulting from some of the attempted mining operations in this colony, had been sent to Adelaide for analyzation, and the report received is of the most promising character, and such as will, no doubt, encourage mining operations on a commensurate scale. The report states that a specimen of sulphuret of lead was found, richer in silver than any lead ore yet found in South Australia, and that sulphuret of zinc was everywhere found in conjunction with silver. Judging from the specimens, it was deemed probable that they may lead to a lode which, if of a regular kind, would disclose a very rich silver mine; but the report recommends a careful and scientific examination of the surface specimens, and the stratification of the rocks where such minerals are found, as the best means of perfecting discoveries.

THE SPANISH QUICKSILVER MINES.—We learn, by a letter dated Madrid, April 12, that the question of the quicksilver mines is being agitated again. The *Gazette* of that date publishes the conditions, in virtue of which the 20,000 quintals which the Government holds in London, and all which the Spanish mines produce, during four years, are to be sold by auction, the sale to take place on the 11th of May, at the office for the sale of State property, Alcalastreet, in Madrid. To be admitted as a bidder, it will be requisite to deposit $100,000 in hard cash, 9,000,000 reals in titles of 3 per cent., and 18,000,000 in paper of the 5 per cent., in the Bank of St. Ferdinand.

ARRIVAL OF FOREIGN COPPER.—The *Mercun Wickstrom* arrived in the Thames on Wednesday, the 18th inst., from Alten, with 73 tons of cake copper. We have seen a sample of the cargo, which fully bears out the high character which this copper has alteredy attained in the market. From the exceeding purity of the metal in this cargo, it will be of great utility to those manufacturers who require the copper for their purposes to be freed from all extraneous matters, although we apprehend it would be too expensive for common purposes. The price demanded, we hear, is 90*l.*, and the per centage of the copper, we should judge, over 98 per cent.

COPPER MINERS' COMPANY IN ENGLAND.—We learn, from an authentic source, that the labours of the committee of adjudication, appointed at the late general meeting are proceeding satisfactorily, and that arrangements are being entered into, which will lead to an amicable adjustment of all differences and outstanding claims. It has been decided that the costs incurred by Mr. Lord in his suit against the governor and court of assistants should be liquidated by the company, and a joint petition (by the plaintiff and defendants) presented to the House of Lords, praying their lordships to allow the petitioners to withdraw the appeal, which is fixed for hearing on the 23d inst.

THE BANWEN IRON COMPANY.—In the *Mining Journal* of the 7th inst. we gave the particulars of an action which had been brought against the directors of this company by Messrs. Robinson and Co., the successors of the well-known firm of Bramah and Co., engineers, Pimlico, to recover the sum of 600*l.*, for work done and goods delivered; when, after hearing evidence, Baron Parke directed that the plaintiffs should be nonsuited. In the Court of Queen's Bench, on Thursday last, Mr. Sergeant Channell moved for a rule to set aside that nonsuit, which was granted by the Court.

EGLINTON IRON-WORKS, AYRESHIRE.—The third furnace at these works, at Kilwinning, was, a few days ago, put into blast, there being now there three furnaces in full operation. The fourth new one is about completed, and will soon be blowing too. All the eight furnaces of the Glengarnock Iron Company at Kilbirnie are in blast. These are indications of returning prosperity.

IRON, HARDWARE, & METAL TRADES' PENSION SOCIETY.

The sixth annual dinner of this benevolent society took place on Wednesday evening, at the London Tavern, Bishopsgate-street, and was numerously attended by the most respectable and influential members of that trade.—The Lord Mayor had promised to take the chair; but, in consequence of his lordship's engagements, to accompany H. R. H. Prince Albert to the opening of the Grimsby Docks, he was obliged to send an apology. —The chair was taken by D. COTTAM, Esq., of the firm of Cottam and Hallam.—Lord Dudley Stuart, M.P., on the right of the chair, as also the Rev. Dr. Burnet; and in the room about 150 gentlemen sat down to a most excellent dinner, given in the very best style of this celebrated establishment.

The cloth having been removed, and "Non Nobis Domine" sung, the CHAIRMAN gave "the Queen," the next toast being that of "the Queen Dowager, Prince Albert, and the rest of the Royal Family," and "the Army and Navy."—The CHAIRMAN then gave, "Prosperity to the iron, tin, copper, and other trades, and the miners and those associated with their production." (Loud cheers.)

Mr. ENGLISH (of the *Mining Journal*) returned thanks on behalf of those engaged in mines. Song by Mr. Sporle—"Let us speak of a man as we find him."

The CHAIRMAN then said that the next toast was the toast of the evening, and that was, "Prosperity to the society."—(Cheers.) Six years ago, the men of the metal trade, in the midst of the excitement which existed about railways, met together in that room, and founded an asylum for their servants, and those in the trade who might need its assistance. In that year, as he had said, the members of that trade met, and founded an asylum, which existed, notwithstanding all that had happened since its foundation. At the present time, there were from 18 to 20 persons receiving the benefits of the institution; but he had great pleasure in informing them that six more would now be added to the number.—(Cheers.) Prosperous times, he was happy to say, were before them; and he trusted they would support the institution as it deserved. He would, therefore, give them, "Prosperity to the Metal Trades' Pension Society."

The Rev. Dr. BURNET, in proposing the health of the chairman, entered at length on the benefits derivable from institutions of this nature, and paid a high tribute to those who had promoted, and by their attentive service advanced, the institution to the point at which it had arrived. Charity was one of the first duties which religion taught, and, as one of its preceptors, he was delighted at thus participating in the promotion of so virtuous an object which was manifested by so numerous an assemblage upon the present occasion. It was not for him to follow the worthy chairman, who had referred to the several uses to which metals might be applied, more especially as related to warfare, but he would only say, as a man of peace, although he would not deny that in common with the chairman, and those present, he hoped he might be considered as a "man of metal," he trusted our requirements, without regard to that particular application, would be such as not only to encourage and support the trades, but enable them well to support an institution, established for the benefit of those requiring aid, and whose best services may have been devoted to its advancement. The reverend gentleman concluded by proposing the health of the chairman.

The CHAIRMAN, in reply to the compliment paid him, expressed his regret that the chair was not filled by the Lord Mayor; but connected as he (the chairman) had been with the trade for years past, he was most glad to render any service in his power in promoting the interests of the society, and rendering aid to those who were in want.

The health of the vice-presidents having been given from the chair, the same was responded to by Mr. FOWLER, who entered at length on the advantages arising from institutions of this nature.

The CHAIRMAN then proposed the health of the stewards, with thanks to them for their very able services, as manifested by the returns then before him, which was acknowledged by Lord DUDLEY COUTTS STUART. The noble lord, in returning thanks on the part of himself and his brother stewards, expressed the pleasure he had derived from witnessing the progress and advancement of the society, and regretted much that friends in other foreign states were not then present, who might have appreciated the benefits of the institution, as one of those which did so much credit to this country. He should feel an interest in the advancement of the objects of the society, and at all times feel a pride and pleasure in promoting its interests.

Mr. HENRY ENGLISH, as one of the stewards, without detracting from any remark which had fallen from the noble lord, would wish to draw attention to one point to which his lordship had not directed the notice of those then assembled. It was a notice which had been placed before him—that of a sermon being preached at the Church of St. James's, Garlick Hythe, Upper Thames-street, by the Rev. T. Burnet, D.D., F.R.S., on Sunday next. He trusted that all those who were not only anxious to uphold the institution by their presence on an occasion like that which presented itself, but who would bring with them their friends and supporters, would be present; and, in listening to the rev. gentleman who would address them, he felt no doubt but that the result would be highly beneficial to the interests of the institution.

The health of the treasurer, the honorary officers, and committee, having been given, the toast was acknowledged, in eloquent terms, by Mr. JOHN DALE, who is one of the most active members of the committee.

The donations announced in the course of the evening amounted to 265*l.* 7s. 6d., including one of 52*l.* 10s. from Messrs. G. and J. Oliver, of Wapping. The new annual subscription amounted to 129*l.* 13s. 6d.: together, 395*l.* 1s., exclusive of the ordinary subscriptions for the past year, amounting to 488*l.* 5s., thus making the present annual subscriptions, exclusive of donations, 617*l.* 18s. 6d.

The following is an abstract of the last annual report, "If the receipts in 1848 have fallen short of those of the preceeding year, it must be remembered that those of the year 1847 present a striking contrast to the receipts of every year before. It is further worthy of observation, that the difference between the last year and its predecessor is to be found in the item of donations only; the annual subscriptions of 1848 exceed those of 1847 by more than 70*l.*, notwithstanding, on the one hand, the loss of some previous annual subscribers during the last year, from death and various other causes; and, on the other hand, the augmentation of subscriptions received in 1847 from arrears due in previous years, of which none remained to be collected in the year 1848. Above all, it must be remembered that the last year was one of unprecedented political excitement throughout Europe, producing an unparalleled depression in the trade and commerce of this country, in which depression the iron, hardware, and metal trades have had their full share, even if they have not been the greatest sufferers. If, therefore, the benefactions of the wealthy have, from such peculiar causes, fallen short of those of the previous year, it should not be forgotten that, in times of general suffering, consideration for those under his immediate protection is the prior duty of the wealthy employer, and that the claims of this society, in comparison, are only secondary. Many of the most distinguished ironmasters and companies are known to have continued their works for the sole purpose of preventing their workmen from applying for parochial or for eleemosynary aid; and some have done so at an absolute loss. Under circumstances of a nature so extraordinary, it must be satisfactory to observe that, excepting 1844 (when the first festival of the society was held) and 1847, no previous year has exhibited an amount of donations equal to those of the past year. The payments to the pensioners during the past year, it will be seen from the treasurer's statement of accounts, amount ed to 223*l.* 13s., whereas 40*l.* 19s. was all that was disbursed under this head in the preceding year. Nevertheless a further addition to the permanent funds of 800*l.* Three per cent., reduced stock, effected at a cost of 670*l.* 8s., will show that your committee have not overlooked the advantage presented to the society by the depressed state of the public securities; and though by this operation they have somewhat exceeded the amount applicable to the purpose, according to the rules, and have thereby trenched upon the amount placed at their disposal for the general purposes of the society, they see no reason to regret the course they have taken, nor do they doubt but that the liberality of the trades will, in a short time, amply make up the amount thus diverted from its proper channel."

IRON, HARDWARE, AND METAL TRADES' PENSION SOCIETY.—A sermon in aid of the funds of this society, and in recommendation of its character and advantages, will be preached on Sunday morning, April 22, in the church of St James's, Garlick-Hythe, Upper Thames-street, by the Rev. T. Burnet, D.D., F.R.S., rector, and this being the first sermon appointed to be preached in behalf of the society, we doubt not but that those resident in the City connected with the trades, as well as the liberal supporters of institutions of this nature, will respond to the call of the charity. The Lord Mayor not being present at the anniversary dinner, having met his Royal Highness Prince Albert at the opening of the Grimsby Docks, there is every reason to believe he will be present.

THE IRONMASTERS AND THEIR MEN.—It is fully expected (says a correspondent), the other Welsh ironmasters will follow the example of Messrs. Bailey, at Nantyglo, by advancing the wages 10 per cent. next month, the late advance of 20s. per ton being fully established at the ironmasters' quarterly meeting, at Dudley, on Friday last.—*Cambrian.*

IMPROVEMENTS IN MACHINERY FOR DRILLING METALS AND OTHER SUBSTANCES.—Messrs. D. Watney and J. Wentworth, of Wandsworth, Surrey, have just obtained a patent, which is thus described in the *Mechanics' Magazine* of this day:—Where holes have to be bored in rocks, or in large masses of stone, or metal, which cannot be readily moved, there is often considerable difficulty experienced in so fixing the drilling tool as to obtain the necessary purchase. To obviate such difficulty in all cases is the object of the present invention. A rectangular metal frame is supported loosely on a foot by a screw and nut, which allows it to turn freely in any direction, and it is furnished at top with a screw, carrying a circular disc, which is also free to revolve thereon. This frame is maintained in a vertical or horizontal position by having the foot and disc screwed into contact with the floor and ceiling, or to the two sides of a chamber, or mine. A block of metal slides up and down the space of the frame, and is fitted with clamp pieces and a screw, carrying at one end a socket-head, and at the other a nut, whereby it may be maintained stationary at any required distance from the foot-piece. This socket carries a screw, having a hole bored in its head, to serve as a bearing to the drill, so that it may be made to work in a horizontal or vertical line, or in a direction at any desired angle to either of them. Motion is communicated to the drill from a prime-mover, in the ordinary manner.—*Claim:* The mode of combining the parts before described into a machine for drilling metal and other substances.

RAILWAY ASSURANCE COMPANY.—The Committee on Standing Orders have agreed to overrule the opposition offered to the above company by the Railway Passengers' Assurance Company for neglect of the Standing Orders, and to permit the promoters to proceed to bring in their bill, which simply provides for the substitution of a small per centage on their revenue, in lieu of the heavy stamp duties exigible on life policies of the ordinary class. The basis of the Railway Assurance Company, as established by Mr. Neison, is to charge a small premium, payable in gross, and once for all, to assure railway travellers against all travelling contingencies. The Railway Passengers' Company, on the other hand, intend to charge 3d. for each journey for long or short distances. Our main objection to the principle of the latter—we mean the threepenny company—is the impossibility of identifying their policy-ticket holders in the event of an accident; for unless the assured traveller can be stamped at the station, at the same time as his ticket, we do not see how the company are to prevent his handing it over to any friend who may happen to fall in need of it. We are glad to know that both companies are active and persevering in their Parliamentary proceedings; although, of course, until their Acts be obtained, they will not probably be much before the public. There is ample room, and verge enough, for the successful working of more than one assurance company of the class contemplated; and perhaps in virtue of the old adage that "one lawyer in a town will starve when two will thrive," the public, after all, may be not only benefitted, but are more likely to be persuaded to their own benefit by two companies than by one.—*Railway Record.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 193¼ 2	Belgian, 4½ per Cent., 84
3 per Cent. Reduced Ann., 90¼ ⅝	Dutch, 2½ per Cent., 50¼ ½
3 per Cent. Consols Ann., 91¼ 2	Brazilian, 5 per Cent., 79½
3¼ per Cent. Ann., 91½	Chilian, 6 per Cent., —
Long Annuities, 8⅝	Mexican 5 per Cent., 29⅞ 30¼
India Stock, 10½ per Cent., 245½	Russian, 5 per Cent., 104½
3 per Cent. Consols for Acc. 92¼ 2	Spanish, 5 per Cent, 17½
Exchequer Bills, 1000*l.* 2d. & 1½d. 44 47 pm.	Ditto 3 per Cent., 32½ ⅝

MINES.—The business transacted during the week has been rather more limited than we have had it for some time past, although offers are still made for shares in most of our leading mines, at prices to which sellers in general will not conform.

Several shares in Devon Great Consols have changed hands during the week. The gratifying nature of the directors' annual financial statement, furnished to the shareholders preparatory to the yearly meeting, has no doubt brought the many purchasers in the market. We learn that a run has taken place in Wheal Maria, between the 28 and 40 fm. levels, bringing away about 800 tons of copper ore.

Kirkcudbright shares have been in request, and several transactions have taken place at an advance on former quotations.

South Tolgus, South Wheal Basset, West Caradon, Condurrow, Levant, West Buller, and South Frances, have been in demand.

West Caradon is stated to have considerably improved, a valuable discovery having been made in a north lode by a cross-cut extended from the 120 fm. level.

Shares in the following mines have changed hands during the week—viz.: Devon Great Consols, Mary Ann, Trehane, East Pool, Grambler and St. Aubyn, Great Rough Tor Consols, Stray Park, West Wheal Jewel, Sharp Tor, Kingsett and Bedford, Camborne Consols, East Tamar, Bedford United, South Tamar, Tincroft, Tamar Consols, Wellington, Treleigh Consols, Drake Walls, Holmbush, &c.

The report of the Kinzigthal Mining Company, read at the meeting held on Friday, is of a favourable character. In St. Michael, one of the five mines worked by the company, operations had been carried on for testing the value of the lode, in the prosecution of which it became necessary to drain the mine. A quantity of ore had been raised from the silver and cobalt mines in the Witchen district; but the pocket of native silver, mentioned at the last meeting, had not yet realised the expectations entertained. But, exclusive of this, the quantity of cobalt ore raised would, the chairman thought, yield a satisfactory result for the year. The prospects of the copper mine were such as to afford the best anticipation of future profit; and this alone would pay a handsome dividend, which would be largely increased by the pocket of rich native silver referred to. The funds, including those arising from the sale of ore in stock, were deemed sufficient for the operations of the company to the end of the year. The expenses were about 200*l.* monthly, and no liabilities of importance were incurred. The report was unanimously adopted.

Since the meeting of the Wheal Seton adventurers, at which the statement of accounts, showing a balance of 169*l.* 3s. 5d. in favour of the company, was made, the agent's report of the mine has reached us. The rise in the back of the 90 fm. level, on the north caunter lode, is producing 12 tons of ore per fm. The 80 end, and the stopes in the back, are producing 8 tons per fathom. The stopes in the back of the 70 are returning 14 tons per fm. The stopes in the back of the 60 produce 6 tons per fm. All the other levels and stopes are producing 4, 3, and 2 tons per fm. respectively. Upon the whole, we consider the mine to be in an improving position.

The meeting of the Wheal Fortescue adventurers, held on the 13th inst., at which the accounts from Sept. to Feb. inclusive were audited, showed a balance of 95*l.* 3s. 9d. in favour of the adventurers. The adventurers have taken the West Wheal Maria sett, which will give an extensive piece of ground, through which the south lodes run. The engine-shaft is down to within 2½ fms. of the point from whence it is proposed to drive a cross-cut, to intersect the Great Wheal Maria lode, which, at the 20 fm. level, appeared very promising. To carry out these operations a call of 1*l.* per share was made.

By the statement of accounts at the East Pool meeting, it appears that the balance against the mine is 137*l.* 17s. 8d. The ores sold (less dues) amounted to 923*l.* 11s. 1d.; the costs and merchants' bills, 1047*l.* 6s. 3d.

The accounts of the Wheal Mary (Redruth) show a balance in favour of the purser of 367*l.* 6s. 5d. The ores sold amounted to 444*l.* 10s. 11d. A call of 10s. a share was made.

The bi-monthly meeting of Condurrow adventurers was held on Monday, for the purpose of auditing the accounts for February and March. The balance-sheet presents a profit of 37*l.* 1s. 11d. on the two months' working, carrying a credit of 236*l.* 19s. 3d. to the next account, exclusive of the copper ore sold on the 5th, amounting to 1569*l.* 4s., which is not shown in the statement. The manager's report of the mine states, that the engine-shaft will be down to the 80 fm. level by next month, which has gone through the lode for 2 fms., and is estimated worth 40*l.* per fm. The 70 east has been driven on a very productive lode for 27 fms.; 8 fms. further east a winze has been sunk on the lode from the level above, producing 4 tons of ore per fm.; on the north a portion of the lode has been left standing, producing 4 tons per fm., which has not yet been ascertained to be a distinct lode; the 70 west is not at present so productive as it has been for the last 8 fms. On the Llandour lode a winze is sinking under the 30 fm. level, east of Pryor's shaft, worth 15*l.* per fm. Extensive tutwork is in operation to render Condurrow a profitable and permanent mine.

The usual bi-monthly meeting of the Levant adventurers took place on Monday last, when a dividend was declared of 12*l.* per 160th share, leaving a balance of 1100*l.* in the purser's hands.

In foreign mines we have little to notice, the transactions in shares having been very limited. The chief business has been in St. John del Rey, Copiapo, United Mexican, Guadalcanal, and Real del Monte shares.

The report of the Alten Mining Association for February shows a return of 151 tons for the month. Nearly all the mines are represented to have improved; whilst, at Carl Johan's, the lode has increased to nearly 3 feet wide, with a course of solid ore. The proprietors may be congratulated on their present prospects, which are as promising, if not indeed brighter than at any former period.

Letters from South Australia, dated Adelaide, to the 24th of January, state that the Burra Burra Company had ceased taking up more vessels for freight of ore. The late quarrel between the managers of the mine and the miners had been satisfactorily arranged, and the latter were fully employed. The smelting-works of the company were expected to be shortly in operation: 324 tons of ore had left the mine for the week ending 6th of January, and 500 tons more were forwarded to Port Adelaide during the same week. We find it stated that the Governor of the colony and his lady were about to pay a visit to the mines; and the chairman, accompanied by some of the directors, had left Adelaide for the purpose of receiving them. The latest quotations of shares were —Burra Burra, 125*l.*; Princess Royal, 10*l.*; Adelaide, 1*l.*; Kapunda, 2*l.*; Enterprise, 1*l.* 10s.: Paringa, 2*l.* 10s.; Port Lincoln, 5*l.* 5s.; Wheal Gawler, 20*l.*; Prince Albert, 2*l.* Nothing of importance had occurred with respect to the other mines.

By the India and China mails, received on the 17th inst., we learn that the Bombay metal market to the 16th March, continued firm as regards copper, for which an active inquiry exists. Iron, up to last advices, was in demand, but prices, both as regards British and Swedish bar, as well as other descriptions, have partially subsided. The price of pig and sheet lead had slightly given way, while that of spelter remains steady. The Hong Kong metal market to the 27th of Feb. continued without alteration.

HULL, THURSDAY.—The market has shown more business during the week; in fact, transactions have very much increased in this district, although prices have receded, and, in some cases, considerably. We think there will be a severe struggle for the York and Newcastle chair. It is now known that Mr. Hudson has resigned that of the Midland.

EASTERN COUNTIES RAILWAY.—The report of the committee of investigation into the affairs of this company is to be issued on Thursday next, when, if what we hear be true, it will be shown that a systematic "cooking" of accounts has been carried on for some time past, in order to declare dividends, a large portion of which have been paid out of capital. We understand that the committee recommend that a dividend of about half the amount of that recommended in the directors' report shall be paid for the last half year, and that in future a certain sum shall be regularly set aside out of the profits to replace the capital which has been improperly applied to the payment of accounts legitimately chargeable to revenue.—*Morning Post.*

ACCIDENTS.

A dreadful accident occurred in one of the Blaenavon collieries by a fall from the roof one poor fellow had his head severed in two, and two others were dreadfully mutilated.—*Swansea Herald.*

Kingswinford.—An explosion of sulphur took place at Keeling's Colliery, the property of Benjamin Gibbons, Esq., and adjoining the Oak Farm Works. The doggy had examined the pit as usual before the men went to work, and believed that all was right, but in about an hour an explosion took place, by which three men were dangerously burnt and two others slightly injured—one of them, John Hickman, was so severely injured that he died on the following morning, and little hopes are entertained of the recovery of the others.

Bilston—Distressing Coal Pit Accident.—On the afternoon of Wednesday last a melancholy accident occurred in a coal pit near Stokes' Engine, on the Willenhall-road, the property of Phillip Williams, Esq., by which a miner, named William Smith, about 37 years of age, lost his life. A large quantity of coal fell upon him, and nearly an hour elapsed before his fellow-workmen succeeded in finding his body.—*Birmingham Journal.*

Boiler Explosion at Carn Brea.—On Friday morning, shortly after 7 o'clock, the engine boiler, at Carn Brea Mines, by some means exploded; fortunately there were not many persons present, it being the usual hour of relief underground, consequently we are happy in having to report that only one lad was rather severely injured. The others were promptly relieved by the agents and medical attendants, and are in a fair way of recovery from the accident.—*Cornwall Gazette.*

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	8	3
1024	Alfred Consols	8¾	7½
1000	Antimony & Silver-Lead	5	5¼
1024	Ashburton United Mines	8¾	8 10
1024	Balleswidden	9	18
128	Balnoon Consols	42½	50
10000	Banwen Iron Co.	6	6
1000	Barristown	5¾	1½ 2
4000	Bedford	2½	3 3½
1244	Birch Tor Tin Mine	9	5 5½
8000	Blaenavon	50	12½
100	Botallack	182	25
120	Brewer	5	3
10000	British Iron, New, regis.	12	8
—	Ditto ditto, scrip	10	10
128	Budnick Consols	52½	35
1000	Callington	20	10 12
1000	Camborne Consols	5	3
20000	Cameron's Steam Coal	6	1
256	Caradon Copper Mine	9½	1½
256	Caradon Mines	22½	10
256	Caradon United	24	5 8
256	Caradon Wh. Hooper	21	4½
1000	Carn Brea	15	104
3000	Carnew Consols	1½	5
114	Charlestown	220	—
500	Combiawn	5½	4½
128	Comfort	45	85
256	Condurrow	20	90 95
2560	Cook's Kitchen	14	2½ 3
1000	Coombe Valley Quarry	3½	4½
1000	Copper Bottom	1½	6½
212	Craddock Moor	23½	5
128	Creeg Braws	120	30
500	Cubert Mine	12½	—
1000	Cwm Erfin	3	2½ 3½
300	D. Prior & Buckfastleigh	—	—
7100	Derwent	8½	5
845	Devon & Courtenay Con.	7½	¾
1024	Devon Great Consols..1	20	205 10
1000	Dhurode	2	5
186	Dolcoath	30	15
2560	Drake Walls	5½	4 5
10000	Durham County Coal	45	9
3000	Dyngwm	10	12½
512	East Alvenney	5½	5½
2500	East Birch Tor	3	3½
112	East Caradon	47	47
2048	East Crowndale	6½	4
512	East Combe Silver-Lead	6½	6½
128	East Pool	15	75 80
9000	East Tamar Consols	¾	¼ ½
94	East Wheal Crofty	125	65 70
1024	East Wheal Fortune	2	3
128	East Wheal Rose	50	580
—	East of Scotland Iron Co.	5	1½
123	East Wheal Seton	14	10
1280	Esgair Lli	1½	2½ 3
248	Exmoor Wh. Eliza	6	6
494	Fowey Consols	40	45
1024	Freidd Llwydd Mines	1½	3½
6400	Gadair	2	2
4000	Gen. Mining Co. for Irel.	1½	1½
256	Gonamena	44½	16
128	Goonvrea	4	2
256	Grambler & St. Aubyn	80	12 15
100	Great Consols	1000	190 200
512	Gt. Wh. Rough Tor Con.	18½	28
2000	Growa Slate Company	5	5
256	Gwinear Consols	7	1
6000	Helgiston Down Con.	1½	1½ 1¾
256	Herodsfoot	27	15 18
10000	Hibernian	12½	1¾
239	Hobb's Hill	6	1½
1000	Holmbush	22	5
1024	Kingsett and Bedford	¼	3½ 4
827	Kirkcudbrightshire	8½	3 4
2048	Lamberooe Wh. Maria	13	2
252	Lanarth Consols	—	4
128	Lelant Consols	90	40
160	Levant	—	180 200
1000	Lewis	16	10½
1000	Llwyn Malees	7½	5
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	19	14
6000	Marke Valley	10	¾ 1
5000	Mendip Hills	3	1½
128	Metha	34	140
20000	Mining Co. of Ireland	7	4
1280	Nantycria	4	4
256	New East Crowndale	3½	2½
100	North Pool	45	621
140	North Roskear	5½	150
262	North Wh. Leisure	1½	2
15000	Northern Coal Co.	23	2
128	Par Consols	55½	800
8000	Pennant & Craigwen	2	½
1024	Penzance Consols	18s 3d.	3
512	Plymouth Wh. Yeoland	6½	6
200	Polsaith Consols	5½	4½
2500	Rhoswiddol & Bacheldon	10	10
10000	Rhymney Iron	50	13
10000	Ditto New	7	6½
1000	Rosewall Hill	1	5
256	Roswarva Mines	—	12
2048	Runnaford Coombe Tin	¾	12
9000	South Tamar	½	½ 1
128	South Caradon	5	400
1100	South Dolcoath	4	5

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
256	Sth. Friendsh. Wh. Ann	20	4
256	South Molton	5	15
256	South Tolgus	14	50
256	South Trelawny	28½	2 3
2000	South Wales Mining Co.	½	1 1½
128	South Wheal Basset	20½	280
124	South Wh. Frances	160	260
256	South Wh. Josiah	—	3
1000	South Wh. Maria	2½	1½
10000	Southern & Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	—
94	St. Ives Consols	—	70 90
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	43	17 17½
9600	Tamar Consols	3	6 ½
1024	Tavy Consols	6	1½ 2
6000	Tincroft	7	11
1000	Tin Vale	2½	2½
58	Tokenbury	170	10
256	Tregordan	2	4 6
256	Trehane	1½	25 26
5000	Treleigh Consols	6	1½ 1¾
2000	Trenance	3	—
96	Tresavean	10	150
120	Trethellan	5	15 16
120	Treviskey and Barrier	130	88 93
288	Trevean	1½	5
100	United Mines	300	200
256	Wellington Mines	25	40 45
128	West Buller	10	290 300
256	West Caradon	20	110 115
512	West Fowey Consols	40	12
256	West Providence	9	15
200	West Seton	40	225 230
—	West of Scotland Iron Co.	240	90
120	West Trethellan	5	16
256	West United Hills	—	4½
512	West Wheal Frances	1½	2
256	West Wh. Friendship	9	8
3725	West Wheal Jewel	11	¾ 1½
256	West Wheal Tolgus	80	14 15
256	West Wheal Treasury	19	4½ 5½ 8
1024	Whiddon Mines	4½	2
5200	Wicklow Copper	5	8¾ 8½
107	Wheal Adams	79	30
1000	Wheal Agar	—	8
256	Wheal Albert	10	1
240	Wheal Anderton	25½	29½
128	Wheal Ann	—	50
512	Wheal Anna Maria	6½	8
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	15
256	Wheal Benny	14½	2
256	Wheal Blencowe	21	10
256	Wheal Bucketts	20	8
232½	Wheal Calstock	9	15
1024	Wheal Coad	1	4
268	Wheal Courtenay	12½	15
256	Wheal Fortescue	6½	—
388	Wheal Franco	27	13½
128	Wheal Harriet	45	—
100	Wheal Henry	—	20 5
112	Wheal Margaret	79	200
512	Wheal Mary Ann	5	16½ 17
208	Wheal Mary Consols	60½	8
—	Wheal Penhale	—	12
210	Wheal Prospect	4	7
120	Wheal Reeth	41	150
128	Wheal Rose	60	3
198	Wheal Seton	214	550 600
180	Wheal Sisters	35¾	5
494	Wheal Sophia	4½	5
128	Wheal Spearne	10	75
128	Wheal St. Ann	30	35
550	Wheal Trescoll	7	10
260	Wheal Trelawny	7½	80
256	Wh. Tremaine (St. Ervan)	9½	2½
1024	Wheal Tremayne	9½	4 5
92	Wheal Tryphena	140	265
1000	Wheal Vincent	2	7
256	Wheal Vlow (Perranz.)	½	½
184	Wheal Vyvyan	—	60
250	Wheal Williams	28¾	8
1024	William & Mary Worth	2	2½

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	2½
15000	Asturian Mining Co.	15	3½ ¾
20000	Australian	3	6½
10000	Anglo-Mexican Co.	100	½
12374	Ditto Subscription	25	1½
6000	Barossa Range	1½	2 2½
3000	Bolanos	150	2
2000	Ditto Scrip	15	2½ 2½
10000	Brazilian Imperial	23	4
12000	Cobre Copper Co.	40	22
10000	Copiapo Mining Co	14	4 4½
20000	General Mining Ass'n.	20	14
4000	Guadalcanal	5	10 12
5000	Kinzigthal Mining Ass.	2	3
5051	Mexican Company	59½	—
2000	Mexican & South Amer.	8	1 1½
5000	National Brazilian	30	3½ ¾
104000	N. Brit. Australasian	1	10s
7000	Royal Santiago	10	5½
11000	St. John del Rey	15	11
13174	United Mexican ...Av.	28½	3¼ 3½

**** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

LATEST CURRENT PRICES OF METALS.

LONDON, APRIL 20, 1849.

ENGLISH IRON. *a*		*per ton.*
Bar, bolt, & square, London	£6 15 0	
Nail rods	7 5 0	
Hoops	8 17 6	— 9
Sheets (singles)	9 15 0	—10
Bars, at Cardiff & Newport	5 15 0	
Refined metal, Wales*	4 5 0	
Do. anthracite*	4 5 0	
Pig, No. 1, Wales, cold-blast	4 0 0	— 5
Do. do. hot-blast	3 10 0	
Do., No. 1, Clyde ... *net cash*	2 7 0	
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	4 5 0	
Do., do., for tin-plates, boiler plates, &c., ditto	4 10 0	
Stirling's Patent Toughened Pigs in Glasgow	3 3	—3 6
Stirling's Patent Toughened Pigs in Wales	4 0	—4 15
Staffordshire bars, at the works	7 10	
Pigs, in Staffordshire	3 0	—3 15
Rails	5 15	—6 0
Chairs	4 5	
FOREIGN IRON. *b*		
Swedish	12 10 0	—13
CCND	—	
PSI	—	
Gourieff	—	
Archangel	—	
FOREIGN STEEL. *c*		
Swedish keg	14 5	
Ditto faggot	15 0	—15 10
ENGLISH COPPER. *d*		
Sheets, sheathing, & bolts, *p. lb.*	0 0 10	
Tough cake ... *per ton*	88 10 0	

Tile	87 10 0	
Old copper *e* ... *per lb.*	8½d	
FOREIGN COPPER. *f*		
South American, in bond	£73	—75
ENGLISH LEAD. *g*		
Pig ... *per ton*	16 0	
Sheet	16 15	—17
Red lead	17 10 0	
White ditto	22 0 0	
Patent shot	19 15 0	
FOREIGN LEAD. *h*		
Spanish, in bond	15 5	—15 10
American ditto	—	
ENGLISH TIN. *i*		
Block ... *per cwt.*	4 9 0	
Bar	4 10 0	
Refined	4 16 0	
FOREIGN TIN *k*		
Banca, in bond	4 15 0	
Straits	4 10 0	
Peruvian (6 mo 2½ p. ct. dis.)	—	
TIN-PLATES. *l*		
IC Coke ... *per box*	1 10	—1 11
IC Charcoal	1 14	—1 15
IX ditto	1 18 6	
SPELTER. *m*		
Plates, warehoused ... *per ton*	16 5	—16 10
Ditto, to arrive	16 0	—16 5
ZINC. *n*		
English sheet ... *per ton*	22 0 0	
QUICKSILVER *o* ... *per lb.*	0 3 4½	

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per cent. dis; *e*, 6 months, or 2½ per cent. dis.: *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.
* Cold-blast, free on board in Wales.

REMARKS.—We have to notice a continued depression in the iron market. Welsh bars have declined full 5s. per ton, making present price 5*l.* 15s., free-on-board at the port, whilst second-hand parcels are offering considerably below this figure. Scotch pig-iron is also extremely flat; sales have been made during the week at 46s. 6d., and 46s. cash; and also at 46s., bill at three months.

GLASGOW, APRIL 19.—We have had a very quiet market this week in pig-iron. The falling off in the shipments throughout this year, and the blockade of the German ports by the Danes—shutting up one of our markets—have had a bad effect upon holders, and sales were made this morning at 46s., but improved in the afternoon to 46s. 6d. for mixed Nos, cash.—The following is the

Result of Comparative Production and Shipments of Pig-Iron, from 1st January to 31st March, 1848, and 1849.

Excess of production	*Tons* 22,000
Decrease of shipments, 1849	25,067
	47,067
Which, added to the stock at Dec. 31 last—say	100,000
Makes present stock	*Tons* 147,067

Shipments to United States, for same period.

	Liverpool. 1848.	Liverpool. 1849.	Glasgow. 1848.	Glasgow. 1849.
January	4658	2636	560	890
February	2644	2850	1250	1750
March	2884	6609	1905	2605
Tons	10,186	12,095	3715	5245

	1848.	1849.
Liverpool ... *Tons*	10,186	12,095
Glasgow	3,715	5,245
	13,901	
Excess in 1849	3,439	
Tons	17,340	17,340

LIVERPOOL, APRIL 20.—Owing to the unsettled state of political affairs in the north and south of Europe, there has been a decided check to business in metals, and holders evince a disposition to sell at a slight reduction upon previous rates. The Scotch pig-iron trade is very depressed, and the absence of any continental demand, with the large accumulation of stock, gives little hope of any early reaction. Mixed Gartsherrie has been sold at 48s. per ton, and 500 tons S. M. B. by a maker, at 41s., four months. The market closes with sellers at 47s. cash, but no buyers. There is less demand for tin-plates, and the price is rather easier. No change in lead or copper.

YORK, NEWCASTLE, AND BERWICK RAILWAY.—We are informed, on undoubted authority, that a large body of the shareholders have solicited Mr. Beckett Denison, M.P., chairman of the Great Northern Railway Company, to allow himself to be put in nomination for the chairmanship of this company, in the place of Mr. Hudson, who, it is supposed, will resign. The hon. gentleman, we understand, has not yet given a positive reply on the subject.—*Post.*

CLARIDGE'S PATENT ASPHALTE COMPANY.—A meeting of proprietors was held in Paris on the 29th March, when a dividend of 8s. per share was declared.

THE ELECTRIC TELEGRAPH.—The violent storm of last Thursday night laid prostrate several of the posts on which the electric wires on the South-Eastern line are extended, and completely interrupted all telegraph communication. On Friday it was impossible to communicate beyond the Pluckly Station, but the utmost endeavours were being made to re-open the electric line.

LEAD ORES

TICKETINGS FOR ABOUT 100 TONS (20 cwts.) NEWTONARDS LEAD ORE.

Douglas, Isle of Man.

Bidders.	*Offer per Ton.*
Sims, Willyams, and Co.—Llanelly	£8 16 0
Newton, Keates, and Co.—Liverpool	9 1 6
Tamar Smelting Company—Tavistock	9 5 6
Walker, Parker, and Co.—Chester	9 7 0
Thomas Somers—Bristol	9 9 0

Sold at Holywell.

Mines.	*Tons.*	*Amount.*	*Purchasers.*
Talargoch	50	£ 8 11 6	Walker and Eyton.
ditto	47	10 2 6	Newton, Keates, & Co.
ditto	53	11 0 0	ditto
Brynford Hall	2	10 18 0	Walker, Parker, & Co.
Hendre	80	9 18 0	ditto
ditto	5	7 0 0	ditto
Fronfownog	80	10 7 0	ditto
ditto	10	11 16 6	J. P. Eyton.
Deep Level	60	9 16 0	Newton, Keates, & Co.
Aberderna	8	10 4 0	J. P. Eyton.
Cairnsmore	50	9 14 0	Walker, Parker, & Co.
Rhewarch	12	11 1 0	Newton, Keates, & Co.
Total tons	457.		

Sold at the Mine.

East Wheal Rose	79	£12 9 6	T. Somers.
ditto	60	12 15 6	Tamar Company.
ditto	48	12 8 6	ditto

Sold at Liskeard.

Herodsfoot	101	£11 9 6	Tamar Company.
Wheal Mary Ann	67	18 14 6	Tamar Company.

Sold at London.

Tamar Mines	105	£21 5 6	Tamar Company.

COPPER ORES.

Sampled April 4, and Sold at Andrew's Hotel, Redruth, April 19, 1849.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
Devon Gt. Cons. Wh. Josiah	105	£9 19 0	Fowey Consols	74	£7 15 6
ditto	97	8 18 6	ditto	66	2 13 0
ditto	85	8 8 6	West Caradon	94	8 18 6
ditto	82	6 5 6	ditto	71	8 10 0
ditto	57	5 18 6	ditto	54	8 7 6
Wh. Fanny	103	5 15 6	ditto	47	11 12 6
ditto	89	5 2 0	ditto	39	4 9 6
ditto	88	7 10 0	Marke Valley	116	3 4 6
ditto	87	7 14 6	ditto	100	3 5 0
ditto	77	5 3 6	ditto	25	2 19 6
ditto	74	5 8 6	Wh. Friendship	110	9 3 0
ditto	72	4 18 6	ditto	103	7 8 6
ditto	60	5 10 0	Bedford United	114	7 2 0
Wh. Maria	94	5 12 0	Holmbush	83	6 4 6
ditto	77	11 12 0	Wh. Pink	55	6 9 6
Wh. Anna Maria	55	6 6 6	South Wh. Fortune	30	12 4 6
Fowey Consols	94	6 3 0	ditto	19	9 8 0
ditto	90	6 17 0	Wh. Bucketts	40	3 1 6
			Phœnix Mines	15	8 6 0

TOTAL PRODUCE.

Devon Gt. Cons. Wh. Josiah, Wh. Maria, Wh. Fanny, Wh. Anna Maria	1302	£9111 13 6	Wh. Friendship	213	£1771 5 6
			Bedford United	114	809 8 0
			Holmbush	83	516 13 6
			Wh. Pink	55	356 2 6
Fowey Consols	324	1944 17 0	South Wh. Fortune	49	545 7 0
West Caradon	305	2615 12 0	Wh. Bucketts	40	123 0 0
Marke Valley	241	773 9 6	Phœnix Mines	15	132 0 0

Average Standard ... £ 99 17 0 | Average Produce ... 9¼
Average Price per ton ... £6 16 6
Quantity of Ore ... 2741 tons. | Quantity of Fine Copper, 262 tons 15 cwts.
Amount of Money ... £18,699 8 6
LAST SALE.—Average Standard ... £104 14 0.—Average Produce ... 8½
Standard of corresponding sale last month, 99*l.* 7s.—Produce, 9¼.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	117	£846 8 3
Vivian and Sons	688	5237 10 0
Freeman and Co.	414	2754 17 6
P. Grenfell and Sons	208	1438 7 6
Sims, Willyams, and Co.	657	3538 11 0
Williams, Foster, and Co.	629	4705 18 0
Schneider and Co.	28	178 1 3
Total tons	2741	£18,699 8 6

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—United Mines 1283—Par Consols 376—Wheal Comfort 271—South Caradon 244—Wheal Henry 240—Tresavean 177—Treleigh Consols 115—Wheal Banns 73—West Wheal Jewel 70—West Trethellan 31—Wheal Brewer 14—East Downs 9—North Downs 8.—Total quantity to be sold, 2911 tons.

Copper ores for sale on Thursday week, at Tyack's Hotel, Camborne.—Mines and Parcels.—North Roskear 962—North Pool 691—Consolidated Mines 512—Tincroft 353—Fowey Consols 297—Wheal Seton 262—South Wheal Basset 216—South Wheal Frances 169—Creeg Braws 150—South Roskear 133—Wheal Vyvyan 36—Wheal Union 8—Wheal Northy 2.—Total quantity to be sold, 3791 tons.

COPPER ORES

At SWANSEA, for sale, April 26.—Cobre 115, ditto 111, ditto 97, ditto 93, ditto, 78, ditto 75, ditto 60, ditto 54, ditto 52, ditto 31, ditto 74, ditto, 62, ditto 61, ditto 58, ditto 55, ditto 51.—Burra Burra 66, ditto 63, ditto 62, ditto 61, ditto 60, ditto 35.—Berehaven 124, ditto 95.—Ballymurtagh 41, ditto 39, ditto 6.—Chili 45.—Aberdovey 18, ditto 6.—Vine Slag 16, ditto 7.—Total quantity to be sold, 1874 tons.

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"An Enquirer" (Bath).—There are several compositions for making paste for false gems. That of Wieland is considered one of the best. It is in the following proportions:—Powdered rock crystal, 4056 grains; red lead, 6300; pure potassium, 2154; borax, 276; white arsenic, 12 grains; the whole to be fused until entirely clear. The colouring matter is obtained from the several metals—gold: the purple of Cassius gives a fine ruby tint.—Silver: the oxide, or phosphate, yellow.—Iron: the oxides, blue, green, yellow, and brown.—Copper: the oxide, a rich green when mixed with a small portion of tartar, which tends partially to reduce the oxide red.—Antimony: a rich yellow.—Manganese: black; in small quantities, purple.—Cobalt gives blue of various shades, with the yellow of antimony or lead, green.—Chrome produces fine greens and reds, depending upon its state of oxidisation.

"B. F. A." (Farringdon-street).—The sand-banks in the German Ocean are one-fifth of its whole area. The Dogger bank is 350 miles long, of quartz, sand, shells, &c.

"A Mining Adventurer" (Woolwich).—Shares on the Cost-book System are in general transferred by a letter to the purser of the mine, which contains a promise to transfer the shares to the purchaser, with stamp if necessary. The Commissioners of Stamps, in one instance, served a party transferring shares with a notice of legal proceedings, but the matter was never prosecuted. If this law was enforced with rigour in the counties of Cornwall and Devonshire, it would be a great impediment to business, and the cost of stamps would soon eat up the profits of the shares; although strictly legal, it is one of those impracticable laws which are allowed to lie dormant, unless in very extreme cases.

Bucutu Gold Mines.—The communication of Capt. Verran had better not appear. It would but tend to continue the controversy, without at all leading to a settlement of the matter in dispute.

"Smelter" (Swansea).—Windsor loam was first discovered at Hedgerley, five miles north of Windsor. The bricks made from it are, in certain cases, superior to those of Stourbridge.

"A Student" (Durham).—The ammonaical oxide of gold, or fulminating gold, is formed from a nitro muriatic solution, mixed with three or four times its weight of distilled water, by the addition of ammonia, until the precipitation is completed, but not beyond that point. The precipitate, which will weigh about a fourth more than the gold, is to be carefully washed and dried on paper. It is also formed whenever ammonia is introduced in any manner into the solution, and a precipitation is effected by any alkali. This precipitate explodes with a considerable noise, by the application of a slight degree of heat, or by pressure, or by percussion. The fulmination results from the sudden and violent disengagement as well as condensation of the hydrogen of the ammonia and oxygen of the oxide, whilst uniting to form water, and the rapid escape of the nitrogen, the gold being left restored to its metallic form.

"T. B." (Swansea).—We shall endeavour to obtain the information you require in the ensuing week.

J. Parker (Hoxton).—The only iron mine at present worked in the island of Elba is that of Rio, near the village of Marina. About 1250 quintals is the yearly make of the foundry. The shipping port is Porto Ferrajo, a small town, containing about 3800 inhabitants, celebrated as the residence of Napoleon during his exile, and the place from which he embarked on his last expedition to France.

"Miner" (Camborne).—A German barrel of ore is about 8 cubic feet, and generally will contain about 750 lbs. weight of ore.

"An Enquirer" (Islington).—The Elden Hole is a large perpendicular chasm at the Peak in Derbyshire. The depth of it has never been correctly ascertained. The late Mr. Cotton, who sounded it the end of the past century, stated it to be 886 yards in depth.

"T. B." (Sunderland).—The principal deposits of the lignites in Spain are in the neighbourhood of Oviedo and Santander, Alcoy in the province of Alicante, Valdivieso in Burgos, Garcia Rodriguez in Corrunna, Mequinenza y Escarpe in Arragon, near the River Ebro, Igualada and Moya in Barcelona, Benisalen in the island of Majorca, Minglanilla and la Pesquera in Cuenca, Riodevs and Utrillas in Teruel, Arenasdel Rey and Ugijar in Granada, Arbolas and Vera in Almeira, and Segura in Andalusia. These in general contain from 40 to 50 per cent. of coal.

"A. B." (Belfast).—We have inquired of several engineers and philosophical instrument makers, but none have ever heard of any gauge for steam-engines, under the designation of Bedwell's patent condenser, or vacuum gauge. The price of a common steam vacuum gauge is 2*l*. The other portion of your query shall be answered next week.

"L. S. B." (Colchester).—Large beds of subterraneous trees have been discovered in Hatfield Chase, Yorkshire, and at Dagenham, in Essex.

"G. F." (Camborne).—Yttrium is an earth; it was discovered by Prof. Gadolin, at the quarry of Ytterby, in Sweden. It is sometimes called Gadolenite. According to Berzelius, it consists of—yttrium, 80·1; oxygen, 19·9.

"A Student" (King's College).—Antimony is of a silvery white colour, brittle and crystalline in its ordinary texture; when broken it exhibits beautiful facets. It was first discovered by Basil Valentine, about the end of the 15th century. It is found native in Sweden, France, and the Hartz. The principal ore is the sulphuret; the most common is the radiated, which is of a grey colour, brittle and crystallized, in four and six sided prisms.

"A Young Geologist" (Dorchester).—Fossil bones of elephants have been found in the London clay. Siberia is the great deposit of the bones of extinct mammalia. The remains of elephants and tigers are likewise found in the plains of Germany and Hungary, where they at present do not exist. In the museum at St. Petersburg there is a tusk of the mastodon, which weighs 138 lbs.

"D. E." (City).—The gold deposits of California are comparatively a recent discovery; none of the ancient voyagers there speak of them. Father Salvatierra, who was sent there by the Jesuits in 1697, to convert the Indians, does not mention them, though he dilates in glowing terms on the pearl fisheries on the coast, which at the present day, if they exist, are entirely disregarded.

"L. M." (Bond-street).—Carbonate of lead, or cerusse, is generally used as a white oil paint. The great seats of its manufacture are London and Newcastle-on-Tyne. The make is about 16,000 to 17,000 tons annually.

"A. C." (Bandon-bridge).—The quantity of coals raised in Great Britain is about 31,500,000 tons annually; the United States, 4,400,000; France and Belgium, 4,141,617; Prussia, 2,500,000; and Austria, 700,000. The value of coals produced in Great Britain amounts to about 9,500,000*l*.; in the United States about 1,500,000*l*. The extent of the British coal-field is about 11,859 square miles; that of the United States 133,132 square miles. In the reign of Henry V. two ships were employed by the celebrated Sir R. Whittington to carry coals from Newcastle to London. In the year 1615, 400 sail were employed; this had increased, in 1703, to 600; and the returns for 1846 give 10,488 as the total employed in carrying coals from the different districts to London. During the last nine years, the import of English coal to London has increased 26 per cent.; that of Welsh coal and culm 145 per cent.; during the same period, the importation of Scotch coal has decreased 100 per cent.

H. Crosbie (Queen-street).—According to Wolfram, the composition of "tutenag" is two parts of tin with one of bismuth.

"A Constant Reader" (Newport).—The cost of obtaining the Acts of Parliament was, for the Great Western, 88,710*l*.; the London and Birmingham, 72,815*l*.; the Eastern Counties, 45,190*l*.; the Great Northern, 434,861*l*. In 1847, the gross returns of all the railroads opened was 4,510,866*l*., which, on an average, would be 2304*l*. per mile. The amount received for passengers was 5,148,093; goods, 3,362,883*l*. In 1848, the gross returns were 10,068,000*l*. It is calculated, when the whole lines of railways for which Acts have been obtained are opened, the gross returns will not be less than 20,000,000*l*. At the end of 1847, the total length of railway sanctioned by Parliament was 11,673 miles; the capital required, 336,580,210*l*.; the amount actually raised, 167,321,256*l*.

"W. B." (Leeds).—Small branches of anthracite have been found in Scandinavia, but no other coal. The rocks are all of a primary formation.

H. Grimsey (Colchester).—The famous salt works of Poland are at Vilitzca, near Cracow; there are likewise large salt works at Saltzburg, in Upper Hungary. The rock-salt produced there is of different colours; the blue and red variety always loses its colour when exposed to the air, while the yellow retains it. At Neusol, there is a statue of rock-salt which acts as a barometer; it grows moist when there is an appearance of rain, but it is always dry when the weather is settled, or likely to become fair.

"D. B." (Cirencester).—Platina was first called by the Spaniards "plata de pinto." It was brought into England by Mr. Charles Wood, in the year 1746. He obtained it in Jamaica, from a Spaniard, who brought it from Carthagena, in New Spain. Its principal deposits are in Brazil and Siberia.

"Anglo-Cullan."—We have been unable to procure any particular information, but hope to do so by our next publication.

"W. R."—The report of Devon and Courtenay Consols never reached us last week, or it would have been inserted,

*** It is particularly requested that all communications may be addressed—

To the Editor,
Mining Journal Office,
26, Fleet-street, London.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, APRIL 21, 1849.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

Two important cases, as regards the provisions of the Joint-Stock Companies' Winding-up Act, passed last session, were, early in the week, brought under the notice of the Lord Chancellor, in the shape of appeals, from the decision of Vice-Chancellor Knight Bruce. Two of the shareholders of the "Agriculturist Cattle Insurance Company"—one of the speculative offshoots of 1845—had presented a petition, praying that the affairs of the company might be wound-up under the provisions of the Act referred to, which application was rejected by the Vice-Chancellor, on the ground that the company did not come within the scope of the Act. The objects of the company were of a curiously miscellaneous description; for, in addition to insuring cattle, they granted insurances against loss by mortality of every description of animals, biped or quadruped, the property of the keepers of exhibitions included. The scheme did not appear to captivate the public; and, in due time, the company found that its losses amounted to 11,900*l*., and its debts to 12,000*l*.; whilst its liabilities, in respect of the insurances granted, were 1,257,000*l*. This rapid progress in the wrong direction induced a panic among the shareholders—some of whom were permitted to retire upon payment of a stipulated amount, in proportion to the number of their shares. As a last drop in the cup of their misfortunes, there were no assets; a stronger case, therefore, for winding up the business of the company cannot be easily conceived. The chief objections of the opposing counsel were—first, that the company was not of the class contemplated by the Winding-up Act; and, secondly, that though it had not yet succeeded, that was no reason why it should not succeed at some future period. Considering the embarrassed circumstances of the company, this was taking a sanguine view of the subject, which savours strongly of what is usually denominated a legal fiction.

The other case was that of the Manchester Direct Independent Railway, also a product of the speculative mania of 1845, and through the operation of not very dissimilar causes, in as embarrassed a condition as the Cattle Insurance Company. The company was "projected" for the carriage of passengers and goods, with a capital of 3,000,000*l*., in 60,000 shares of 50*l*. All the preliminary arrangements were duly carried out; but, according to the petition, when the time arrived for complying with the Standing Orders of Parliament, the managing committee entered into an agreement for an amalgamation with another line, which was never carried out, and which, coupled with other untoward circumstances, led to the failure of the undertaking. The "deposits" which had come into the hands of the managing committee, however, mysteriously disappeared—a fact which seems to have had considerable weight in inducing a large proportion of the shareholders to pray for the dissolution and winding up of the company. In both cases it was contended that the Joint-Stock Companies' Winding-up Act did not apply to schemes of this description, which were simply preliminary plans for the formation of a company, but not companies themselves. Bankrupt companies only were intended to be included within the scope of the Winding-up Act, whereas the companies in question had not become bankrupt, but merely prayed to be "wound up." The Cattle Insurance Company had not been properly "registered," which formed another reason for urging the fitness of dissolution, the company being thereby disabled from enforcing its calls—an objection which was met, however, by the statement, that if the registeration was informal it was not too late to set it right. The other company was duly registered under the Registration Act, 7th and 8th Vic., and, therefore, as was alleged by Mr. Bacon, counsel for the appellant petitioner, came within the Act, c. 111, comprising all "trading and commercial" companies, which had been registered either provisionally or completely, and its affairs might be legally wound up under its provisions. The interest attaching to the question was enhanced by the fact, that there were no authorities on the point, no previous decision having been given.

On Wednesday, the Lord Chancellor gave judgment on the last-mentioned case—that of the London and Manchester Railway Company—reversing the decision of the Vice-Chancellor, and making an order for the winding up of the company. His lordship observed, that it had been contended, in opposition to the petition, that the building of a railway was similar to the building of a house, and might, or might not be, for a commercial purpose; but, in the present case, the affidavits plainly proved that the company had been projected for the purpose of carrying passengers and good between London and Manchester; and it must, therefore, be regarded as an association for commercial purposes. The Joint-Stock Companies' Winding-up Act of 1848, applied to all companies within the provisions of the two Acts—7th and 8th Vic., c. 110, known as the Registration Act, and the 7th and 8th Vic., c. 111, being the first Winding-up Act. We subjoin the concluding portion of his lordship's judgment:—

The Registration Act proceeded to describe its application to all joint-stock companies "for any commercial purpose, or for any purpose of profit, or for the purpose of assurance or insurance (except banking companies, schools, and scientific and literary institutions; and also friendly societies, loan societies, and benefit building societies, respectively, duly certified and enrolled under the statutes in force respecting such societies, other than such friendly societies as grant assurances on lives to the extent hereinafter specified); and that the term 'joint-stock company' shall comprehend every partnership whereof the capital is divided, or agreed to be divided, into shares, and so as to be transferable without the express consent of all the co-partners." The words of description in the Act 7th and 8th Victoria, chap. 111, were "any company or body of persons now, or at any time hereafter, associated together for any commercial or trading purposes, and registered either provisionally or completely under the provisions of an Act passed or to be passed in the present session of Parliament for the registration or regulation of joint-stock companies; or any joint-stock company now existing, and comprehended within the definition therein contained of a joint-stock company, shall commit any act which by this Act is to be deemed an act of bankruptcy," &c. The sole point for the consideration of the court was, whether this company, formed for the purpose of constructing a railway, and only provisionally registered, should be held to be a company "for any commercial or trading purposes, or for any purpose of profit;" for if it were, undoubtedly the petitioner was entitled to have it wound up, as the object for which it had been established had completely failed. Although the words in the two Acts were not precisely the same, still he (the Lord Chancellor) did not think there was any material difference between them; and he was certainly at a loss to know why a variation had been made in the descriptions. Looking at the object for which this company had been formed—namely, to convey passengers and goods by railway—he could not help coming to the conclusion that it was an association "for commercial purposes or the purpose of profit," and was, therefore, within the provisions of the Joint-Stock Winding-up Act of 1848. The decision of the Vice-Chancellor must, therefore, be reversed, and an order made for the winding up of the company.

The judgment with respect to the Cattle Insurance Company was given on Thursday, and the shareholders in that luckless speculation will probably not deem themselves very fortunate in the decision come to by his lordship, affirming that of the Vice-Chancellor. Without deciding the point whether the company came under the Winding-Up Act, the conclusion of the Lord Chancellor was, that neither the losses incurred by fixing the premiums too low, nor the heavy liabilities for outstanding insurances, were a sufficient reason for considering the company insolvent. The time when such liabilities would become payable was remote, and the company would, in the meantime, be in the regular receipt of premiums upon policies. The possibility of a future excess of liabilities did not, in his lordship's estimation, form any real ground for a present dissolution. It appears, therefore, that the Lord Chancellor considers the company more prosperous than they imagine; that their case is by no means to be despaired of; and at all events that the intervention of the law, as provided by the Act referred to, is not yet called for. How much comfort the company will derive from this decision is doubtful, and it is just possible they may think that they understand their own condition rather better than his lordship. The facts brought under the notice of the Court disclosed but a dismal prospect, and if all be true that was alleged by the petitioner, and confirmed by the eagerness of many of the shareholders to withdraw, a "wind-up" would be not merely a wise course, but, despite the late decision, a not very distant consummation.

It is one of the anomalies connected with our position as a great nation, and owing as we do that greatness to our industry, that the law, which ought to be the fosterer of industry, should be attended not merely with intolerable delays, but, what is still worse, so vague and undefined, leaving points for endless litigation, and when a decision is arrived at, often committing and supplying a precedent for injustice. As the organ of the mining community, we have had our attention directed to many cases that have recently occurred in our courts of law; and we have promised to lay before our readers some of the most important, elucidating the defective state of the law as regards the equitable working of mines. It cannot be doubted, that the enterprising spirit that realises so much wealth from the hidden depths, ought to have the careful protection of the laws, as being essential to its full and beneficial development. The want of a proper basis for investigation into these matters, and the apparent deficiency of fitting precedents in our own law courts, has led us to examine the laws by which Spain governed her mines, and under which they proved so productive. Among her ordinances, we find many judicious ones, founded on lengthened experience and, we believe, adapted to many cases brought under the consideration of our courts, and which, if regulated by the spirit which governs these ordinances, would have received a more prompt, as well as just, decision, than is frequently given. The action between the Duke of Beaufort and Sir John Morris, which was tried at the last Glamorganshire spring assizes—the facts of which were promised last week—is well deserving the consideration of the mining community; also that of Phillpotts *v.* Leaver, in the Queen's Bench, and the Hollyhill *v.* Parkhead Collieries, contiguous to each other—the higher one letting down and accumulating water into the lower—which are still pending, will, doubtless, supply matter for future comment. The case between the Duke of Beaufort and Sir John Morris may be taken as a fair example of the anomaly with which mining law is chargeable. The Duke of Beaufort is the proprietor of the Landore Colliery, near Swansea, situate in the valley at the lower end of the stratification of several layers of coal—the working of which required a powerful steam-engine to drain off the water. The upper portion of the layers belonging to other proprietors, where the coal cropped out, had been excavated downwards with the dip of the strata, until the water prevented any further progress, and remained in that state for years—the duke's lower workings being protected from these accumulations of water by a barrier of unwrought coal, and the natural protection of a fault.

After the steam engine was erected, and the duke's collieries had been worked by its aid, an extension of a drift into these old workings, and the destruction of these barriers, was attempted and effected, so that the coal might be, and was, extracted at the expense of the duke's engine, and, in the end, caused the stoppage of the duke's collieries by overflowing them. To restrain these proceedings, an injunction was obtained from the Vice-Chancellor, in 1846, which was confirmed in the same year by Lord Lyndhurst, but subsequently the question was again raised before Vice-Chancellor Wigram, in 1847; and Lord Cottenham, in 1848, ultimately referred the case to a jury, and it was accordingly tried, at Swansea, last March, when, rather strange to say, though not strange perhaps to those who know the force of local associations and personal influence, a verdict was given for the defendant.

These repeated decisions, in a case where one mine is manifestly working at the expense of another—and which is only a type of a variety of cases we can cite—affords no very exalted idea of our legislation on the most important subjects connected with mineral property; since the "glorious uncertainty" of the law must undoubtedly tend to injure the progress of the important branches of our national industry connected with mining enterprise. If the law is really so indefinite as not to afford the means of arriving at a correct decision on facts so palpable as those to which we have adverted, and which, unfortunately, are not of rare occurrence, the sooner it is amended the better. At present, whatever the amount of injustice committed by one mine proprietor on the interests of another, the remedy is remote and uncertain. Certainly, such a decision as that given in the case of the Duke of Beaufort is not very likely to tempt other aggrieved parties to resort to the same costly and inefficient tribunal, with probably the same discouraging result.

From private accounts, which we have received from Hamburg this week, we learn that the renewal of hostilities with Denmark has been productive of general gloom and a deep depression of trade; this has been the more severely felt, as the mercantile portion of the community anticipated that, previous to the suspension of the armistice, a definite and satisfactory termination of hostilities would have been effected through the mediation of England. The affair at Eckernforde, at the same time it has elated the war party of the German nation, has deeply embittered the Danes, and both parties appear determined to renew the war with increased vigour, and a rancorous feeling, from which it was divested last year, at present pervades the contest. The burgher-guard of Hamburg, which is composed of the most respectable citizens, have now to perform the town duties of the Hanseatic troops, who are absent at the seat of war, and the busy activity of trade has given place to the din of war and clang of arms. The blockade of the Elbe and the other German rivers has been commenced with great rigour and unexampled severity, the Danes apparently perceiving that they have no hopes of effecting a successful termination of hostilities on land, have determined to distress the Germans by their maritime superiority, and thereby give a severe blow to the commerce of Germany. As the Hanse Towns depend solely on their trade, there is no doubt that these measures will be productive of immense injury to them, and we are sorry to see in the present unsettled state of Germany there is less probability of the Schleswig-Holstein quarrel being amicably adjusted than at the corresponding period of last year. As we receive large supplies of corn and cattle from them, and make in return, in addition to other commodities, large shipments of iron, coals, and coke, the resumption of the war cannot but be regarded with deep interest by the trading community of England; and a blockade, enforced so strictly as that by the Danes, cannot but be productive of great damage to our commercial interests in Germany. Several iron foundries in the neighbourhood of Hamburg receive their pig-iron and fuel from England, the Prussian works are supplied from the same sources, the Elbe Copper Works lately purchased ores in England, and receive all their materials from here; in the course of a few weeks nearly all these establishments will be suspended from a deficiency of supplies, and several hundred people thrown out of employment. On the whole, at no period since the termination of the French war has business been in so depressed a state, or such deep distress felt in Hamburg, as at present.

We have on several occasions felt it our duty to animadvert on the proceedings of the authorities at the Society of Arts, respecting the exhibition of paintings and other works of art, detrimental to the interests of those great objects for which the society was instituted; and at the meeting on Wednesday evening last, when a most interesting and instructive paper was read by Mr. Frederick Pellatt, "On the Effects of Oxygen on the Manufacture of Glass,"

we again found our observations thoroughly borne out. There were probably, at the lowest computation, 200 persons present, among them a considerable number of ladies, while seats were provided for not above 50 in addition to the vice-presidents, and those crowded in a small space, railed off in the centre of the model room on the ground floor. Mr. WINGFIELD, one of the council, politely tendered an apology, which was as graciously accepted; but we leave the facts to speak for themselves. The exhibition will terminate this day week, when the large room above, so appropriate to the purpose, will, we trust, be devoted to its original uses to the end of the session. Ever more ready to applaud than we are to censure, it was with much gratification we heard Mr. WEBSTER announce, that the council had long had under consideration the setting on foot some movement, for obtaining better security for inventions, discoveries, patents, and designs, than existed under the present law. He alluded to the former rules of the Society, when no patented invention was allowed to be described or introduced, but must be original, and stated, that since this rule had been abrogated, much good had been effected. He informed the audience, that after much consideration and discussion the council had appointed a committee to take active measures for carrying out their views, and that on Friday, the 27th inst., a meeting of members and their friends would take place in that room, for full discussion on the subject. This, we are happy to think, is a move in the right direction, and we hope the day is approaching when every act of the council of this widely-beneficial institution, if conducted upon sound principles, will be accompanied with that spirit of liberality which marked the observations of the chairman on Wednesday evening—acts which will not only establish them as the benefactors of science and the arts, but raise the Society to the highest eminence in public estimation.

As it is now highly probable that, in the course of the present session of Parliament, measures will be adopted for the establishment of some system of legislative regulation as to the ventilation of coal mines, it will be well for parties interested to take into serious consideration the several arrangements at present in use, some of them very inefficient for the purpose, as well as those plans suggested, and practically tested, by scientific men, not yet employed but in isolated cases. Among these latter we have Mr. Goldsworthy Gurney's high-pressure steam, Mr. Struvé's mine ventilator, Mr. Fourdrinier's saftey-apparatus for preventing accidents from the breakage of ropes or chains, and Dr. Dunn's wind-hood—all of which have respectively proved highly useful in the several cases in which they have been employed. It is probable, however, that each of these may be of great importance in numerous instances; while in others differently situated they would be next to useless. Withal, certainty in action, safety, and economy, will be the great essentials to be considered, and these must doubtless be controlled by situation, arrangement, and other circumstances—such as the upcast, or the downcast, being the drawing-shaft, or otherwise, the position and extent of the several workings, and whether there is a third, or more shafts, which can solely be made available for ventilating purposes. These, of course, are subjects which come immediately under the notice of the viewers and engineers of the mines; and from the present advanced state of knowledge, as regards geology and mining, and the public anxiety expressed for a full investigation and an efficient remedy, we have no doubt the best means known at command for thorough ventilation will be generally adopted.

With respect to Dr. Dunn's "hoods," to be placed over the shafts in such position as to be self-acting, and always to present the open side *to* the wind on the downcast shaft, and *from* the wind on the upcast, we have no doubt they would be effective in mines of moderate depths, and no great extent of workings, and would probably be of considerable *assistance* in all cases, in addition to other and more elaborate means. At all events, they are exceedingly economical, are no impediment to efficiently working the mines, and are worked by the operations of Nature without expense. Models of a pair of these hoods may be seen at our office, which are neatly turned in wood, and give a clear idea of their mode of action. We have, on former occasions, fully noticed each of these arrangements; and our motive on the present occasion for again adverting to the subject, is to keep the public interest alive to the safety of the miner; and that in a country abounding in mineral wealth, as England does, it may no longer be a slur upon us, that our miners are uncared for, as long as they bring to light the hidden riches of the earth; while in every petty state on the continent similar accidents rarely occur.

There are, doubtless, some things in the visible frame of Nature, and certainly some in the most approved forms of public Government, of which an eye somewhat too critical and too occult might desire the suppression or the removal; but it is no stretch of probability to conclude, that neither the constitution of Nature, nor the true happiness of society would be one whit improved by the coveted alterations. We are taught by a thousand lessons, as well as by the testimony of all recorded experience, that it is wiser and better to be content with *the good upon the whole*, than to commit ourselves to an utopian contest for *the good without exception*. This is a proposition which may be said to be universally true, but it applies with a particular and specific force to the administration of the colonial empire of Great Britain. We have not the boldness to affirm that our administration of this great trust is wholly and absolutely faultless; considering its vastness and its complexity, it would be one of the most astounding of miracles, if the Government of such a chain of dependencies was not, at some times, in some places, or in some things, defective and erroneous. Our colonies girdle the globe, and *laches*, which would be inexcusable in a more limited dominion, are not only excusable, but to be calculated upon in a series of territorial possessions, whose amplitude reaches almost to the interminable. The objections raised against the present Government of the colonies are, in point of fact, objections against all government whatever; they rest on no substantial grievance, nor reveal any accessible remedy. The winds which from every sea visit this island, waft scarcely a single complaint from the colonies themselves; they are for the greater part of English origin, and hatched by a parliamentary coterie. We except the greater and the lesser Antillies, reserving for them a separate schedule, and the more so that they, if the statements made are to be relied upon, have, like the home agricultural interest, been ruined some fifty times within about that number of years. We hope, however, to see the day even of their resuscitation and recovery, comforting ourselves, in the meantime, with the consideration, that, fortunately for the present Government, the deepest wounds they have ever received have been from the daggers of their nominal friends.

It is beyond contradiction that the murmurs which fill the ear of the nation come not from their natural cradle at the ends of the earth, but take wing within the City and liberties of Westminster. The Lords MONTEAGLE and STANLEY, with some half score others of their political complexion, it is who hold in their hands the wires by which they would galvanise the kingdom with a series of colonial terrors. The first of these individuals has been now some years knocking vehemently at the door of her MAJESTY'S cabinet for admission; and the uniform answer from within has been, you cannot by any means be admitted. The other of these twins is the particular person whose assigned office and function it is to do all that in him lies to damage the existing Government of the QUEEN. For this he rises early and sits up late; for this he plies all the arts of a rhetorician, and exercises all the diligence of a Parliamentary drudge. He was himself Colonial Minister not many years since; and though we find no fault with his administration, yet he knows as well as we do that complaints were long and loud against the arrogance and the ignorance with which he discharged the duties of his difficult office. These are the two keys—the position and the claims of these two Peers—with which their chambers of imagery may be unlocked—namely: that one is a rejected Whig, and the other a seeking Tory. The general fact and the general experience of the colonies is all against them, and the accusations they bring. As a whole, the colonies are prosperous and happy; and it is not in large, but in little, things, that any change could by possibility be an improvement.

The characteristic policy, the great salient features of our colonial administration, cannot be but slightly dissimilar, whatever hands may hold the seals of the Colonial Office; and, for our own parts, not wishing to meddle with the mere haberdashery of the question, such as the selection of a governor here, or the removal of a magistrate there, but looking rather to the spirit and character pervading the administration as a whole, we think it as faultless and as successful, and proved to be so by the existing circumstances of the colonies in general, as that of any antecedent administration whatever. We can, we think, especially and emphatically answer for the acceptable and satisfactory character of the Government policy as to colonial mines. That growing interest in either hemisphere has been considerately and liberally dealt with. The persons who have devoted their capital and their skill to that branch of public industry have been encouraged to work out their own interests according to their own judgment, taking care only that the municipal and national statutes, which bind men in all their active duties, and in all places, to social order and to individual honesty, are to be preserved inviolate. It is a false and a disloyal imputation, therefore, to say that the colonies are in any sense slighted by the Imperial Government. In everything practicable they partake with us of the fatness of the olive tree. In the rights of persons, in the rights of property, in privileges, individual and corporate, we sit at the same table, and eat the same food—the sole difference being not in the accommodation, or the fare provided, but in the competency of some of the colonies, from the immaturity of their social elements to receive the strong meat of the constitution.

Again, to what purpose and for what object is it that Parliament is endeavouring to remodel the ancient Navigation Laws of the kingdom, but for this—among its leading intentions—that the colonies may receive into their ports the flags of all the world, and that colonial ships and colonial merchandise may have as free an access to the ports of every nation. There is another class of colonial critics who say that colonies cost us too much. To this Hebrew argument, to this thesis of the market place, there is no living necessity for a long answer. An empire, however, is not a merchant's stock in trade, nor the expense of it to be calculated by his scale of profit and loss. Power, authority, and reputation to the parent state, and an increase of virtue, peace, and contentment to her outlying dependencies, are things which, if secured throughout any empire, and under any government, are all price beyond, and cheap at almost any expenditure.

It would be an easy affair, no doubt, if we made up our minds to relinquish island after island, and to strike our flag upon shore after shore, to lessen the cost of colonial government, and of colonial protection, for colonies we should shortly have none; those jewels would be pulled out of the crown, and escape from the custody of Britain, to enrich the diadem of a power who could better appreciate their value. We could certainly, in that manner, draw in our imperial proportions, and gather up our giant limbs into a nutshell; but we should thereby hand back those interesting districts to the anarchy in which we found some of them, and out of which, by our fostering government, they were fast emerging; and others, whose right hand is not yet sufficiently strong, nor sufficiently armed, for defence, we should surrender to the subjugation and the sway of a master less magnanimous, less conscientious, less scrupulous far, than in any section of our acquired or our entailed inheritance we have ever proved ourselves to be. If to pour into the lap of the colonies, as freely as they are able to bear them, the benefits of an unbound commerce—if to convey to them the high privileges of local Legislation and representative Government—and if, in addition to these, we direct to their shores a stream of sound emigration, commensurate with their actual wants, and with their present capabilities of reception—if, by doing these things, we are still misgoverning the colonies, then the right government of them must mean that we should either neglect or tyrannise over them more fully; that we should ride them with curb and snaffle more constantly, that we should, in fact, do all we can to paralyse their approaching manhood, and to unfeather their ascending pinion. If these latter are the landmarks by which their Government is to be administered—if this is the course of policy which her MAJESTY'S opposition would adopt, we think there is no doubt whatever that the QUEEN'S present cabinet is not composed of the statesmen who would, in any sense, or under any circumstances, condescend to follow it.

TERRESTRIAL MAGNETISM;

AND ITS EFFECTS ON THE SEMI-FLUID SURFACE OF THE EARTH.

[*Continued from last week's Mining Journal.*]

In our last, we noticed the organic contents of the sedimentary rocks, and their respective zones of deposition, showing their agreement with the present order of the living organic system. We shall now proceed to chapter xv., wherein Mr. Hopkins states, that the continual internal action in the crystalline rocks causes numerous superficial indulations by insensible degrees, and thus perpetually altering the planes of sedimentary beds during their accumulation—so that a series may commence to be deposited on a concave, half formed on a level plane, and completed on a convex surface; sometimes receiving the mud, sand, &c., on one side, and again on the other, according to the nature, amount, and continuity of the subterranean forces, and external aqueous and atmospheric causes. The whole series in moving from zone to zone northward, would be governed by the nature of the base on which the sedimentary beds had accumulated, and necessarily conform and subject to all the changes which may periodically occur in the inferior bed. We have already noticed that the surface of the dry land has been cloven, fractured, and dislocated; and that there is scarcely an area of a few square miles which does not bear marks of having been so affected. The geological sections which we often observe in some works treating on this subject, are very erroneous. The rocks are described as if they were regularly built on each other in the following order:—Cambrian, Silurian, coal formation, lias, oolite, and chalk, with a series of beds called Tertiary. Such local accumulation of beds are never found complete, even in the northern hemisphere, much less southward. It is true, that the organic order of the beds is never found inverted; yet a great number of the beds are always absent, and their respective development vary considerably in different localities. England contains almost all the series from the south frigid to the north temperate, but not piled on one another, as described in the common geological works, but overlapping at the edges at different extremities—thus showing that, although some parts were constantly under the sea receiving new deposits, they were not always the same; but alternately changing, according to local circumstances.

In reading some works on geology, it may be supposed that the earth was once actually covered by all the variety of beds, like the concentric coats of an onion; but such an idea is very erroneous, because it is abundantly evident that the depositions were extremely local. We are glad to find that Mr. Hopkins's work has not only removed such impressions, but has created a much greater interest in the subject amongst practical men, owing to the practical application of his system, and its conformity to actual observations. According to communications received, we find the science occupying minds of no ordinary kind in all parts of the world, its utility rapidly increasing, and great as its advance has been within a very limited number of years, it is now, in consequence of its "connection with the laws of terrestrial magnetism," brought within the bounds of legitimate inductions. As it is now appreciated and applied by our leading mining inspectors at home, and in the mines of the southern hemisphere, it is destined to move forward still more rapidly, and must necessarily enhance the value of our subterranean wealth.

[*To be continued in next week's Mining Journal.*]

A "CALIFORNIA" IN BELGIUM.—The *Hainault* of the 13th inst. contains the following paragraph:—"A party writing from Gilly to one of our subscribers, says—Some time past, a mining labourer of our commune gave his daughter in marriage, and by a deed executed before the notary Vandamme, of Charleroy, he assigned to her a dowry of 20,000 francs, which was paid down immediately. Every one was astonished at this circumstance, but the general surprise was increased when it came to be ascertained that this obscure labourer, who was known to have succeeded to no property whatever, had, moreover, placed a considerable sum in the hands of Messrs. Brichon, Brothers, and expressed the intention of connecting himself with the establishment called the Société Anonyme de Couvin. People were lost in conjectures. The workmen with whom he laboured made strong remarks on this sudden accession of fortune. They followed him, watched his movements, and perceived that he was always at work in the fosses of the Ardinoises, frequently separating himself from his companions on the pretext of going to smoke his pipe in a corner. A few days since the parties who had kept their eye upon him surprised him in the act of detaching from a stratum with a hammer a fragment of rock, which he concealed in his bosom. His example was imitated, and, the next day, several of his fellow-workmen produced quantities of mineral substance from which a chemist extracted 20 per cent. of gold, some silver, and 1½ per cent. of platina. Active researches are directed towards the spot where this magnificent discovery was made, and by which the whole of the Charleroy Basin was thrown into a commotion. *La Californie fera le tour du monde.*"

CALIFORNIA.—The steam-ship *Ajax* sailed from Liverpool, on Monday night, for San Francisco, with 78 passengers, three iron warehouses, and a large cargo.

HIGH-PRESSURE STEAM.—This mode of mine ventilation is about being tried in one of Messrs. Vivian and Co's. collieries, in the neighbourhood of Swansea. When brought into operation we shall probably recur to it.

PROSPECTS OF MINING INDUSTRY.

The *Mining Journal* gave, some months back, a series of papers under this head, in which the impediments thrown in the way of trade by the absolutist Governments of Europe were sketched out, and the presumption inferred that a settlement of affairs on the basis of free constitutions, conquered by the people, would prove the commencement of an era at least as propitious as that of 1845. A correspondent, in whom we have implicit confidence, has furnished us with the following details in confirmation of this view, which we hasten to submit to our readers:—

The first and immediate result of the Hungarians coming out of the struggle, in which they are now engaged for their constitution and rights, would be the resumption of a scheme, which was intended to open the most wealthy portion of Eastern Europe to the trader. This project embraced the connection of the Danube in Hungary with the Adriatic Sea, by a railroad about 250 miles in length. This railroad was to commence at Fuime, on the Gulf of Quamero, and to terminate at Sewlin, the Austrian station at the confluence of the Save with the Danube, and would open not only Hungary, but Bornia, Servia, Bulgaria, and Wallachia, with a population of 25,000,000, to the markets of Western Europe. Trading vessels, with an auxiliary screw to use in calms, can reach London or Liverpool in 12 days from Fuime, and would find ample freights in grain, wine, flax, hemp, tallow, and tobacco, wherewith to pay for English manufactures. Of English goods nothing would be so acceptable as tools, cutlery, farming implements, materials, and machinery for steamers on the Danube, the Theiss, and other rivers, locomotives for railways, saddlery, harness, and horse gear of all kinds, to say nothing of cotton and woollen wares.

The Hungarians have for years sought to obtain of the Austrian Government that Fuime should be declared a free-trading station. Not only was this fair and well-founded claim constantly refused, but, in order to prevent its being ever accomplished, the strip of land around Fuime was incorporated into the military colonies of Austria, and was thus removed from the enjoyment of the rights of the Hungarian constitution and the jurisdiction of the Palatine. Nothing has ever been more dreaded by the Metternich Cabinet than the opening of a free trade on the part of Hungary; so certain were these statesmen of the great compass it would not fail to assume, and the consequent preponderance which it would give to the Hungarians. On the other hand, the opening of this trading channel has long been an object of the greatest solicitude for the Hungarians, who urged it specially amongst the grievances which, at the close of every Diet, were presented to the emperor for redress. The newspapers have not given the curious fact, which is, however, vouched for by high authority, that the great cause of the present quarrel is the avowed intention of the Hungarians to free their trade from the shackles imposed by Austria. They demand, as a kingdom which never was incorporated into Austria, but which only acknowledges the Austrian emperor for its king, exactly as Hanover did the kings of England, and which has always had its two Houses of Parliament, while there has never been any general representation for Austria, the right to manage their affairs as Hungarian, and not as Austrian interests prescribe. Hungary is an agricultural country; its capital lies in its rich soil and magnificent climate, in its forests, mines, and harvests. Austria has long been suffering under the false ambition of becoming prematurely a manufacturing country.

To allow Austria to indulge in this fancy, the whole consuming population has been grievously taxed, and foreign markets have been closed against her produce, which cannot be sold where nothing is bought in return. The Hungarians think they have a right to protest against being sacrificed for the gratification of so absurd a whim, and the measures they took in the present year, to show they were in earnest, have drawn down the present fearful war upon them. Ban Jellachich *received his first orders to attack Hungary with his Croats in the same week in which the Hungarian Minister deposited with the Imperial Chancery a categorical demand, that the obstacles to foreign nations trading direct with Hungary should be removed.* The importance attached to this simple demand by both parties may be estimated by this result of its being proffered. Long before any troubles had been fomented in those parts, the Hungarians had given proofs of their extreme desire to connect themselves commercially with Western Europe. A company had been formed under the auspices of M. Kossuth, then a simple deputy in the Lower House, but ardent for the improvement of his country, for the execution of this railway project. A Bavarian engineer, named Kranter was engaged, who surveyed and levelled the whole line, which he mapped and reported on, in the early part of 1848. The Diet undertook to indemnify the company for the outlay they had been put to, and which amounted to 60,000*l.* It was proposed to carry it on as a national work. The war interrupted this with other similar undertakings, otherwise the rails might now be rolling in Staffordshire, or in Wales, and the locomotives constructing in Lancashire for that line. Since it is scarcely possible to appreciate highly enough the markets which this line would open, we may be allowed to hope that the troubles which prevent its completion may soon and in a satisfactory manner be appeased.

The mines of Hungary are numerous and varied. The crown has a monopoly of the gold and silver, and exerts a kind of tutelage over all other works, from which a tithe is exacted. But the scarcity of hands in a country where everything invites to agriculture, makes mining a very unprofitable occupation, and even the precious metals are dearly bought. Some idea may be formed of the condition of industry in Austria, when it is known that, in spite of the show of learning in the immense mining establishment of the Government, the copper produced is not sufficiently pure to be used by wire-drawers. Foreign copper has always been used for that purpose, on which duties have been imposed to protect the negligence of the Government officials. This is but one instance out of a thousand in which the intermeddling of Government with the industry of the people is destructive of all wealth. When the Hungarians have established their rights, the trade that may immediately be opened through Fuime to the states bordering on the Danube and the Theiss will be found to deserve the attention of the British merchant.

ACCIDENTS FROM BREAKAGE OF ROPES IN MINES, &C.—While it is undoubtedly true that the greatest number of violent deaths in mines is occasioned by explosions of carburetted hydrogen, it is equally true that a vast number are occasioned by the breaking of ropes and chains. Ever ready and anxious to ameliorate the condition of the working miner, and render his dreary occupation as safe as scientific knowledge will enable us to accomplish, we have ever been among the first to notice the introduction of any invention likely to effect these desirable objects. Among these in particular, for the prevention of accidents by falls, was Fourdrinier's machine, now, we believe, in successful operation in various localities. We have received from Mr. Heath, C.E., of Staffordshire, a plan and section of an apparatus invented by him, for the prevention of the men falling to the bottom of the shaft, should the rope break. In this case there are two guide rods down the whole length of the shaft, with corresponding grooves on the cage, or box. To keep this as light as possible there is no gallery, or any cumbersome machinery, but the seats for the men are simply slings, hung beneath the box, on which the men can sit; and thus, whenever the corve, or box, is ascending, or descending, two or more men can always go up or down the shaft, as required, without expending time in pulling the men up, or letting them down alone. In case of a breakage in the rope, or chain, there is a catch lever, so arranged, that the weight of the falling bodies presses it against the guide rods, forming a wedge, and immediately arresting its descent. This is as near as we can make the arrangement out from Mr. Heath's description, and, we are sorry to say, we have before had occasion to complain of want of clearness in his communications. We shall be glad to insert any correction in our next.

THE CALIFORNIAN GOLD.—A fair estimate may be formed of the quality of the California gold coming to this country by an examination of the following figures, which have been obtained from one of the leading importers:—A lot weighing, before melting, 600 ozs., produced on melting 579 ozs. 0 dwt. 12 grs., with a "worseness" of 11 ozs. 2 dwts. 2 grs., and 13 ozs. 5 dwts. of silver; deducting the "worseness" of 11 ozs. 2 dwts. 2 grs. from the gross quantity, after melting, there remained 567 ozs. 18 dwts. 10 grs. of standard gold, which was sold at 3*l.* 17*s.* 9*d.* per oz., the silver being disposed of at 5*s.* 4*d.* per ounce.

ARE RAILWAY COMPANIES BOUND TO CARRY COALS?—In the Court of Exchequer, on Wednesday, the question whether railway companies are bound, as common carriers, to carry coals, was again mooted. An action, Johnson *v.* the Midland Railway Company, was tried at the last assizes for Leicestershire, involving this point, when Mr. Justice Maule decided that the defendants were bound to carry the coals, and a verdict was given, with nominal damages. Mr. Humfrey moved to enter a verdict for the defendants, and contended that the coals being tendered in bulk, the plaintiff could not compel the defendants to accept or carry them without ascertaining their weight. The Court intimated that the question was of considerable importance to the public, and further discussion was very desirable. A rule *nisi* was accordingly granted.

Original Correspondence.

COPPER SHEATHING.

SIR,—Although "J. J." will find his questions repeatedly anticipated in my former letters, I dare say you will once more allow me (I hope for the last time) to answer them, in the order in which they are put by him.

1. If simply asked for the results of my professional experience and inferences on sheathing copper, without any offered return, I should naturally expect them to be paid for (which is what I understand by his question).

2. There may be (as stated in my early letters) secrets which ought not to be divulged; but, excepting these, it does appear to me both proper and desirable that the isolated experience and observations of individuals should be collected, compared, and discussed "*openly*." By such comparison and collision of opinion and observation, light has been struck on other arts; laying open their scientific and guiding principles, to improve their practice; and it has long been my belief, that the periodical press, as the convenient medium of such discussion, has been the most effective agent of almost every branch of social improvement. Isolated experience, of limited value to the owner, is often lost to society altogether at his death; whilst two facts, observed by different persons, singly of little value, have often, by comparison, enunciated a principle, which has enlightened, or even reformed, more than one branch of practical art.

3. It was therefore "for the benefit of" *all* that I invited this discussion; especially of the practical smelter, amongst whom the knowledge of guiding principles seems very limited. Witness the statement, in a former communication to your paper, representing copper at 96 to 97 per cent. as unobjectionable, without reference to the nature or quality of the alloy, which in reality is of more importance than its quantity.

4. Disinterestedness is neither expected nor professed by me in a case of this kind; I *want* practical information, direct and collateral, on sheathing copper; and *offer* in return such information, experimental and theoretical, on the principles of smelting, and on the adaptation of the varieties of metal to special purposes, as unusual opportunities, and some labour, have put in my possession. But private or individual opinion is not what I asked ("J. J." is no doubt aware how conflicting and inconsistent that is). In my part of the discussion, I offered to bring forward the results of my analyses and experiments, as the occasions called for them; and if "J. J." will look back, over the course of the correspondence, I think he will not find me, hitherto, in debt to the smelters; nor, if he will answer the questions in my former letter, will he find me backward in making a *fair* return; but though disposed to take my full share in a discussion for general benefit, I can hardly feel called on to pledge myself to answer individual inquiries, before knowing what they are. And if, as "J. J." suggests (and their silence goes to confirm), smelters are indisposed to pursue the discussion; it seems that I have only to do the best I can in private communication.

Let me hope, however, that GERMANICUS will still favour us with the promised analyses of Norway copper, as soon as he gets it from Mr. Stromeyer.—J. PRIDEAUX: *April* 16.

PRACTICAL MINING—SANTA ANA MINE, NEW GRANADA.

SIR,—Under this head, in your last, I see a letter from Mr. Treffry relating to the intersection of the flookan. The part of my geological plan described represents the veins, branches, and flookan in the 24 fm. level—the sketch alluded to in my work, plate 18, shows the effect at a greater depth, where the branches unite as they descend, as shown in my original sections at the company's office. It will be observed that the oblique dislocation is equally evident at both points—quite sufficient for the purpose of illustrating a general principle. I cannot conceive the *object* of the writer in bringing it forward; but, probably, the miners who have lately returned from thence may throw some light on the subject, and, perhaps, explain the meaning of the communication. EVAN HOPKINS.

London, April 18.

REDUCTION OF SILVER ORES.

SIR,—Mr. Birkmyre should have continued the extract a little further, thus:—"In order, however, to guard against the possibility of a failure by smelting, the directors dispatched from this country an amalgamation machine, calculated to drive eight barrels," &c. EVAN HOPKINS.

London, April 18.

SOUTH AMERICAN MINES.

SIR,—Your correspondents only notice a part of the difficulties under which foreign mines suffer. They ought to have noticed the more grievous ones—that, after we have sent out persons to put the concerns into a regular producing state at a great expense, by some fatality, incompetent persons become in charge, and those persons not only waste their time in petty squabbles with the authorities, but they often actually order the pulling down what their predecessor might have put up, simply that they may try their handy work in putting up again, disturbing the routine, and thus embarrass and destroy the prospects of the mines. And the evil is, that those very persons write the most plausible accounts of their proceedings, until our capital and patience are completely exhausted. By the last packet I received a letter from a friend, giving me a most sad account of some of the foreign mines, and he plainly tells me that it is not the country for steady honest men who know their business; it is only suitable to persons who have nothing to lose, and willing to do and to write anything. The mines themselves appear to be secondary objects. Now, Sir, if Mr. Birkmyre can suggest a practical remedy for this stumbling block to the welfare of foreign mines, it will be of much greater importance than any improvements in the chemical details. Although I have lost so much money in foreign mines, yet I have an inclination to try again, *if the mines could be carried on by such men, and on such principles, as done in England.*

Birmingham, April 17. AN OLD SHAREHOLDER.

ACCIDENTS IN MINES, AND CORONER'S JURIES.

SIR,—A reference to the chapters of accidents in your Journal shows, that 170 lives have been lost in our mines since the commencement of the present year. Of these 105 were killed by explosions, 18 by accidents in the shafts, 36 by falls from the roof, and 11 from miscellaneous causes. This is far short of the real number of violent deaths which have occurred in this short period, as there are no means of acquiring correct information as to all the fatal accidents which have happened. This fearful destruction of human life progresses quietly and unobtrusively, as is evidenced by the fact that 42 lives were lost during the last month (March) without exciting any especial notice or inquiry. One half of the number killed in March suffered by explosions, and 14 by falls from the roofs. The verdicts of the coroner's juries, have stated to the public that these deaths have all arisen from accidental causes.

To suppose that this constant and frightful waste of human life is unavoidable, and incapable of diminution, is contrary to well-known facts, which have been amply elicited in the interesting discussions on this subject, which have appeared in your valuable Journal. It appears but too plainly, that the adoption of the requisite means for preventing these accidents requires other impulses than those of mere humanity. Notwithstanding all that has been said and written on this subject, the means of safety are neglected and the lives of the miners are sacrificed with impunity. Had one tithe of the number of persons been killed on a railway, inquiries, commissions, and the Legislature, would all have been called into requisition to devise measures of safety for the future; but the monthly slaughter of 40 or 50 poor miners, is such a common and ordinary affair, as to be deemed unworthy of especial notice; or, if noticed, the measures designed for their relief are procrastinated from time to time, whilst each day adds to the victims thus sacrificed. How much longer things are to continue as they are, it is impossible to say. Her Majesty's Ministers cannot be aware of the great urgency there is for some remedial measures, or they would not have so often postponed introducing the subject to the notice of Parliament. Until new laws are made, it is worth while to inquire whether some good would not result from a more stringent administration of the existing ones. Were coroners in *all instances* to institute a searching and impartial inquiry, to have intelligent and *disinterested* parties as jurors, and not to rest satisfied without obtaining all possible information, very different conclusions from those usually arrived at would result from these inquisitions. Next to explosions, the most common accidents in mines are falls from the roofs. In many districts it is notorious that many of these are owing to an insufficient supply of timber for props; yet whoever heard of a coroner's jury even censuring this cruel parsimony, much less returning a verdict of manslaughter against the guilty parties. This leniency towards the owners is destructive to the workmen; for were the legal consequences of such conduct inflicted upon the proprietor, he would take care that an ample supply of timber was furnished to the men in future, and thus prevent a recurrence of many of these accidents. In his evidence on the Children's Employment Commission, Mr. Reece, the highly respected coroner of East Glamorganshire, says, "the mode of conducting inquests, as at present, is more injurious than useful—proprietors and culprits escape." Those who have attended much to the subject will agree with Mr. Reece, that such is too commonly the case; but it is worth consideration whether the conducting of these inquests is not susceptible of improvement, so as to render them more efficient and salutary. In this respect the coroner has much in his power, and it is to be hoped that some exertions, at least, will be made to improve these courts: and nothing is so likely to induce it as the vigilance of the press, and the attention of the public being directed to their proceedings. J. RICHARDSON, C.E.

Neath, April 16,

VENTILATION OF COAL MINES BY HIGH-PRESSURE STEAM.

SIR,—On the 20th March I attended a meeting of the viewers and others interested in the coal trade, held at Newcastle-on-Tyne, to witness the experiments of Mr. Goldsworthy Gurney, on the application of high-pressure steam to the ventilation of coal mines: and, being convinced of its power and easy application, I decided, on my return to the south, to try it. I have done so, and found it answer exceedingly well. I have enclosed you a drawing of an apparatus I have erected at Shortwood Colliery, near Bristol. I have made it out of old pipes that were on the colliery; the cost of labour in erecting it was 2*l.* 16s. 8d. I pay two boys 1s. per day each for working it. Since its application the air is much improved in the extreme parts of the workings.—BENJAMIN DODD: *Parkfield Colliery, near Bristol, Glamorganshire, April* 12.

[We shall be happy to show the drawing to any of our correspondents, on calling at the *Mining Journal* office.]

WONDERS IN LOCOMOTION—NEW MOTIVE-POWER.

RESPECTED FRIEND,—Possibly many individuals, on reading the description of the inventions of Adolph Count de Werdinsky, published in thy columns, will be inclined to class the whole with the thousand and one schemes which have been proposed for superseding the steam-engine; but I believe that most men of science will see that the plans proposed are sufficiently plausible to deserve an inquiry as to the possibility of success, as they promise immense advantages in an economical point of view—the great requisite for annihilating space. T. Craddock has practically demonstrated the possibility of diminishing the consumption of fuel in the steam-engine from 6 lbs. per horse-power per hour to, I believe, little more than 1 lb., by a plan which, if adopted for ocean steamers, would cause a great revolution in that branch of transit, which has been hitherto so very unsatisfactory—nay, almost ruinous to all parties concerned. If, however, the xyloidine engines could answer to the extent anticipated, all obstacles to ocean navigation would be more rapidly surmounted than by any other known means; but here permit me to remark, that the principle on which the steam and the xyloidine engine works are analogous, when regarded as a chemico-mechanical question. In the former, the motive-power is produced by the combustion of gases. The particles of heat passing slowly through the boiler, become surrounded with water, causing an immense expansion of the fluid; while in the latter, the combustion of the gases takes place in the engine itself—the force produced by their combustion being applied instantaneously against the piston in a more concentrated form, by not being previously qualified to a given pressure, by passing through water—so that the difference between the two exists in the details, rather than in the principle; and I believe it will be admitted, that the adoption of the xyloidine engine is not a question of practicability, but of economy and safety. As regards the former, there is room to hope for success, as *no power could be lost*—the whole force produced by the explosion of the xyloidine being available; but, as regards the latter, there may be more than one opinion, as most persons seem to consider gun cotton such a terrific agent, that all hopes of subduing and guiding its power must be discarded; but we must not forget that the lightning itself has been harnessed, and may be led by a child—a fact worthy of being considered before condemning gun cotton as a motive-power, on the ground of danger.

A curious fact connected with modern inventions is, that none can be made available to purposes of warfare, although in numerous cases the inventors had given their attention to that object. Steam-vessels have been condemned by all the proficients in the art; iron-vessels, ditto; the steam-gun is in its grave, and the electric gun has already disappeared. Gun-cotton would prove more destructive to the assailers than to the assailed; railways and the electric telegraph would be destroyed by the first awakening breath of the demon, so that we may conclude that science and war can never combine together for evil—war belongs to the past, science to the future—war would crush science, but science will be one of the agents of its destruction. We have already seen steam begin to annihilate space, uniting the "oft embattled lands"—electricity is displaying its wonders, and possibly the modern discovery of gun-cotton is destined to eclipse the former inventions in its sphere of utility. Here would be a subject for the members of the so-called scientific societies to examine, but probably they will shake their wise heads, and close their eyes, until complete success is attained—at least, the history of the past may warrant the supposition that such will be the case. Were the obstacles to the progress of science only of a physical nature, the world would soon reap the benefits which it offers, but which are neglected by the apathy of those who have been clothed with imaginary talent, discrimination, and honesty to a sufficient extent, to have unlimited confidence placed in their judgment. It will be only when the people will judge for themselves, as in other matters, that science will be freed from its fetters, and display the wonders it has in store for the benefit of the human race. JOHN DE LA HAYE.

Liverpool, 4 *mo.* 17.

THE GUN-COTTON ENGINE.

SIR,—I beg to offer a few remarks on Count Werdinsky's new motive-power, described in the last Number of your valuable Journal, which, I trust, will throw some light upon this "wonderful invention," and, in plain figures, illustrate its practicability, and its relative value compared with steam-power. The gases produced by the combustion of gun-cotton are, according to Count Werdinsky's statement, chiefly carbonic oxide and carbonic acid gas. The first of these two gases has a specific gravity of 1527, and the other of 972 (atmospheric air being 1000); the specific gravity of the mixture will, therefore, by atmospheric pressure, and a temperature of 32° Fahr., be about 1200, or 10½ cubic feet of the mixture will be nearly equal to 1 lb. in weight. It is evident, that by burning 1 lb. of gun-cotton in a close vessel we can only produce 1 lb. of gas, or, according to the above, 10½ cubic feet, which, if heated to a temperature of 400° Fahrenheit (the highest that probably can be employed in the apparatus), will expand to about 18 cubic feet of atmospheric pressure. The consumption of coal for evaporating 1 cubic foot of water in a properly constructed boiler will be, on an average, about 8 lbs., or 1 lb. of coal will generate 212 cubic feet of steam, of a pressure equal to one atmosphere. Considering that steam can be employed at the same pressure as the gases produced by the combustion of gun-cotton, the power generated in both cases will be in a direct proportion to the quantities of gas or steam consumed, and, consequently, 1 lb. of coal expended in moving a steam-engine will be equal to about 12 lbs. of gun-cotton in the new apparatus, the volume of steam generated by 1 lb. of coal being equal to the volume of gas produced by 12 lbs. of gun-cotton.

How far the count will be able to dispense with all kinds of machinery in propelling is, of course, impossible to say. If it can be done with due economy, it, no doubt, will be of immense value. Perhaps the Count de Werdinsky will be kind enough to explain how the construction of the railways which intersect this country can have drained it of its capital, and produced those very ruinous results stated by him. It would appear to me that the employment of capital at home in buying the materials produced in the country, and giving labour to hundreds and thousands of working men, cannot altogether be of such fearful consequences.

London, April 18. C. J. HANSSEN, C.E.

VENTILATION OF COAL MINES.

SIR,—The new method of preventing explosions in coal mines, proposed by the Count Werdinsky, is certainly very ingenious; and, no doubt, great quantities of the explosive gases would be consumed; but if, by some accident, a sudden gush of this gas should come in contact with the fire, would it not be dangerous?—and would not the construction of so many fire-places, flues, and chimneys be rather expensive?

London, April 18. C. J. HANSSEN, C.E.

PROPOSED PLAN FOR THE IMPROVEMENT OF RAILWAY PROPERTY.

SIR,—About the year 1841, I was bold enough to offer to several railway companies the following plan for the improvement of railway property; and though I was not listened to, I did not feel much surprised at seeing that my homely ideas had not obtained a favourable hearing, since just about that period the BUYING and THE SELLING of railway shares constituted the all-absorbing topics of study, and were a source of a most feverish excitement and revelry in all the transactions relating to railway property; and that, in fact, like the pedlar's razors, those costly and gigantic structures were made to SELL. But now that the country at large has sobered down a little, and that notwithstanding a *splitting headache*, which invariably follows all revelries, and which most of the shareholders might feel, they may not disdain to hear a few words of simple, homely sense, I have a great mind to try again, and humbly beg to repeat that, if we measure the surface of all the sloping side banks that meet our sight all along the railroads which are now intersecting this kingdom, and which have arisen either by the filling up of valleys, or by the cutting through the primitive hills, we will find, upon computation, that there are now actually many thousands of acres of fertile land allowed to lie in a barren, uncultivated, useless state.

Their peculiar shape, and their too great proximity to the railroads, where privacy is desirable, may argue against the propriety of their being cultivated in the ordinary agricultural way; but, on the other hand, the very shape of those slopes renders them highly advantageous to the formation of orchards and fruit gardens; for, if trees, even of a tender kind, were planted at the sides of those embankments and trained on *espaliers*, so that they might lie basking there in the reflected and confined solar heat, and sheltered from the rude winds, they would undoubtedly thrive and bear fruit to the utmost perfection, and amply repay their cultivators.

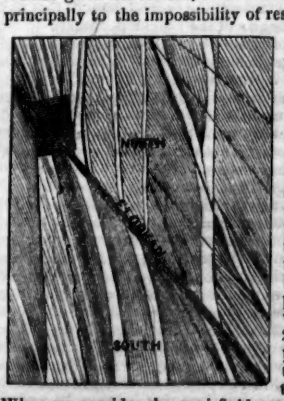
Of course, the south, south-west, and western aspects would best suit the better sort of fruit trees, especially if, at the back of the *espaliers*, a slight, though warm, fence were added, which might be made of long *thatch straw*, fastened in a perpendicular position between long laths, running across in two or three rows. As for strawberry beds, no situation could be more eligible than that of the sloping side banks, and particularly if they should happen to face the meridian sun; while the eastern and northern aspects, as also those in the counties of England further north, fruit trees of a more hardy kind may be reared on those banks, such as the gooseberry and currant bushes, and trees bearing fruit fit for making cyder, for baking, and for other common purposes of domestic economy. By allowing the guards employed on the railroads to have an interest in this sort of property found within their respective beats, they would the more faithfully attend to its preservation. Thus, instead of requiring a certain weekly salary from their employers, they would soon find it more profitable even to farm their gardens from the companies, and to pay them a certain annual rent, in addition to the duties which they are required to perform; while their families would have only to attend to the gathering of the fruits when ripe, and to the packing them for the market, to which they would be easily conveyed by the means of the very railroads at the side of which they were reared. In this way the present barren aspect of the embankments would be transformed into a beautiful, fertile, and cultivated landscape, pleasing to the eye of the traveller, and productive to the different owners, a permanent source of wealth, worthy to be handed down to posterity as a lasting and imperishable heir-loom.—ADOLPH COUNT DE WERDINSKY: *April* 19.

WATERING STREETS—EXTINGUISHING FIRES.

SIR—I fear not but that the majority of your readers have suffered quite enough from the thick clouds of dust which are constantly flying about the streets of London, not to agree with me on what I am going to say. The enormous harm to the health of people exposed to those suffocating eddies of powdered filth, and the infinite injury inflicted on our dress, linen, house furniture (and though last, not least) on the ladies' complexions, are, I think, ample grounds for complaint. But mere grumbling will not bring forth the remedy. The parish authorities are as deaf as adders to all remonstrances; and they may well be so, for their position is far from being an enviable one. On the one side they have to bear up against a set of stingy narrow-minded housekeepers, who choose to refuse contributing their respective sixpences to the watering-rate; on the other hand, with a deficient supply of water for this specific purpose; then, with the slow motion of their cart-horses—but, above all, with the sloth and neglect of the men employed in the performance of the work; and, finally, they are to be pestered with the reproaches of their fellow-parishioners, who are only aware of the fact of having been nearly suffocated with the thick clouds of pulverised mother earth, which, with the sudden changes of weather, in this changeable climate, the whirling gusts of wind had chosen every moment to stir up against them. Now, it is my humble opinion, that, by engaging and uniting the interests of the different influential parties in each parish, the watering of the streets can be effected at one fourth part of the present expense, and in one-fiftieth part of the time, by the following contrivance, which, in addition to the advantage sought for here, will also offer most efficacious means of extinguishing fires almost immediately on their being discovered, and thus saving a great deal of valuable property, as well as human life—viz., let every lamp-post in the street be provided with a cast-iron casing, large enough to enclose a hose made of leather, or other such pliant material as would be easily rolled up into a small compass; let every such hose be connected with the main water-pipe in the street, and be long enough to throw water to a distance limited by the next hose, as also to reach, in case of need, the tops of the neighbouring houses. Let the water companies agree with the parish authorities, and with the fire insurance offices, to supply daily, in addition to the present usual quantities, as much more water as would suffice to allay the dust of the streets, and, if required, to extinguish any fires that may break out in the metropolis. Let every policeman, as well as some of the neighbouring housekeepers, be provided with keys to those iron safes enclosing the hoses, and let the policeman add to their present duties those of watering the streets within their beats, which, by means of this contrivance, would be easily and instantaneously effected, and for which extra service of the police an adequate addition to their present salary would, I am sure, prove quite satisfactory to all parties. The rest is easily foreseen and understood; and, I need not, therefore, enlarge on the great benefit which, from this simple contrivance, would accrue to all parties interested in the cleanliness and welfare of the community.

London, April 16. ADOLPH COUNT DE WERDINSKY.

HEAVES, OR DISLOCATIONS, BY FLOOKANS.—These dislocations have created great discussions, and have caused very opposite opinions, owing principally to the impossibility of restoring the continuity of *all* the veins on both sides of the splits, or oblique flookans. A very little reflection must show that such an agreement in *all* the veins could not be expected. In the first place, the ruptures and veins would naturally take place in the direction of the least resistance, be that in a direct line or not; it does not follow that such veins should be always straight across the flookan. If, again, we consider that the rocks are exposed to the constant polar force, and, therefore, subject to a progressive movement northward, there would be veins and fractures taking place periodically in the same masses—*i. e.*, when the "heaves" are only 1, 10, 20, &c., feet; how then would it be possible to restore the continuity of the whole series on both sides the disturbing flookan? (see plate 12, fig. 4).



When we consider the semi-fluid nature of the masses, and their permitting a continual molecular action through their pores in the meridian direction, like the current of the sap in a living trunk of a tree, we need not be surprised that the wall of the fractures, or veins, cannot be always refitted; their ruptured sides are altered by chemical action in a very short time, just like the natural reparation of a damaged bark during the growth of a large trunk. In cases like the above, the veins on the south side frequently penetrate into the northern, and also a new cleavage intersecting the old is often produced. When the flookans run in a north-west direction, the masses on the west side are generally forced northward more than the east side; if run in a north-east direction the effect is the reverse. The dislocation is quite independent of the direction of the veins; they

depend on the angular position of the flookan. In the above case east and west veins would be "heaved" to the side of the obtuse angle, and the north and south veins to the side of the acute angle, with the same movement.—*Hopkins's Geology and Magnetism.*

ON PYROGEN.—No. III.

BY JOHN JOSEPH LAKE, ROYAL LABORATORY, GOSPORT.

From what has been said in the preceding papers, and the employment of the name "pyrogen" for the electric fluid, it will, no doubt, be perceived that the author assumes the existence of only one fluid. One reason for this opinion is, that it is totally opposed to the analogy of Nature; another, that the theory of two fluids, even if admitted, does not afford a reasonable explanation of many electrical phenomena; and a third, that these, and many others, may be satisfactorily explained on the theory of one fluid. The first fact to which I shall allude is considered to be inexplicable on the hypothesis of one fluid. It is this—that two pith balls, suspended by silk threads, and in a negative state, mutually "repel each other." This, the usual method of describing the appearances, is much calculated to conceal the real cause. When two such balls are charged positively, they separate, because the fluid seeks a wider space over which to diffuse itself, and employs the pith balls to carry it outwards, and discharge it into the surrounding air, or upon surrounding objects; and the pith being very light, the mechanical power of even the small quantity of fluid upon the balls is sufficient to move them. Two balls, similarly charged, and laid on any level non-conductor, separate from each other, to ascertain distance, which is the measure of the force exerted by the two quantities of pyrogen upon each other. In like manner, when the two balls are negatively charged—that is, are void of pyrogen—a vacuum of the fluid is created, and it moves from all parts of the surrounding atmosphere, which is always saturated with it to a greater or less extent, to fill it up; and the balls being moveable and light, as well as better conductors than air, are attracted by the pyrogen, and employed as a ready means of transporting it to restore the equilibrium; therefore, two balls thus suspended, and negatively electrified, or deprived of their due portion of pyrogen, *do not repel each other.* They diverge from a common point; but the divergence is the result of a force applied from without.

From the above, it appears that pyrogen attracts other matter—a fact that may be readily proved in other ways. For instance, by holding anything light near the revolving cylinder of an electrical machine: with a flat, thin, non-conducting substance, as a sheet of glass, the force may be best estimated; and if the glass be held with its surface within half an inch of the cylinder, the attraction will be found to be very considerable, as will also be the case if the glass be held to the conductor, instead of the cylinder. These effects cannot, with any just reason, be considered to result merely from the existence of an immaterial and mysterious power; for if this might be supposed, as regards the cylinder, it is contrary to all analogy and reason that the property could be conveyed to the conductor—a separate isolated body. Heat may, perhaps, be adduced as a property communicated, by contact or near approach, from one body to another; but then we are totally ignorant at present of the nature of heat. Not so, however, of the electric fluid, which is proved to be matter. It is, therefore, much more reasonable to suppose that the property of attraction communicated to the conductor, does not exist in the conductor itself, but in the electric matter it acquires, than that it results from the transmission of an abstract immaterial energy; or, I ought rather to say, the first supposition is perfectly reasonable; whilst the second is quite the reverse. I may here observe, that it is a received law that two bodies positively electrified diverge from each other. This is not, however, always the case—in fact, it is only so under one circumstance—viz.: when the fluid upon them is equal in intensity, that is, when the bodies have equal quantities of pyrogen upon them, in proportion to their capacity of containing them. Thus, if a body be intensely charged, and another have only a slight charge, they will not diverge from, but attract each other until their proportions of fluid are equalised, and then alone divergence commences.

In reference to the atmosphere being saturated with pyrogen, I would make the following remarks:—The light observed during the passage of an electric spark is considered to result from some particular compression of the air by the fluid, and the evolution of light from the air by compression is considered to prove this, or, at least, strongly countenance it. Pyrogen, however, developes light much more readily in a rarefied medium than under ordinary atmospheric pressure. If the light resulted from compression of the air, the reverse should be the case, for it would be increased according to the hypothesis, and the light should, therefore, be brighter. As to the origin of light from air on compression, the fact of it being saturated with pyrogen sufficiently accounts for it, the latter being ejected by the pressure. In the same way the alteration that takes place in the electric state of many substances under pressure may be accounted for. The second fact here to be examined, in connection with this subject, is, that when a card or cards, or folds of paper, are pierced by a discharge of pyrogen, the mark observed by the side of the hole is held to indicate a current in the opposite direction to that discharged, but parallel with it. This current is considered to be the negative fluid. The hypothesis is, however, without any foundation; for, supposing two fluids, they should, in the first place, move with equal force, and each make a complete perforation; secondly, they ought not to move parallel to one another at all, but take the shortest and most direct path to meet, combine, and restore the electric equilibrium; for, in the words of an an advocate of the theory of two fluids, "the particles of each fluid are conceived to exert upon each other a strong repulsive force; while particles of the unlike fluids mutually attract each other." There is, therefore, a contradiction in these views of the case. According to the received explanation of the above fact, the two fluids move parallel with one another, as though desirous of preserving a proper distance, whilst on the principle just quoted they should attract each other, and one mark, or perforation, only be made.

There is an experiment that affords a very natural and simple explanation of the origin of the mark, if we suppose it to indicate the passage of a second current of fluid. When two covered wires of considerable length are twisted together, or placed side by side, a charge passed through one wire induces a weaker current, in the reverse direction, in the other. If the charge were passed through folds of paper, or a card, instead of the wire, the perforation would indicate the passage of the prime current, and the mark that of the induced one.

If the theory of two fluids were correct, a galvanic battery of one pair of plates would be as powerful as one of a hundred pairs. For, beyond one pair, each plate would neutralise the effect produced by the one in the adjoining division of the trough to which it is united; for, supposing each to produce its particular quantity of the electric fluid, the one would be absorbed by, or combine with, the other as fast as generated. But this is altogether contrary to experience, for the quantity of fluid generated in a battery is in proportion to the number and size of the plates. Then, on completing the circuit, the attraction supposed to exist between the two fluids should stop their progress, and they ought to combine with each other, and not make a continual circuit in opposite directions, impinging against one another so strongly as to cause each to deviate from its straight course, instead of combining, as, according to their supposed great attraction to each other, they ought. The observed results are in strict accordance with the hypothesis of one fluid, for the portion of pyrogen that is not discharged upon surrounding matter may very consistently be supposed to circulate again through the battery. It is proposed to consider the cause of the spiral motion of pyrogen, when moving on a wire, in the next paper.

GUTTA PERCHA TUBING FOR VENTILATING MINES.—In consequence of the great interest now existing on the subject of lighting and ventilating mines, and the many suggestions which have been made for various descriptions of tubing for supplying the men with pure air from surface by means of a mouthpiece, as also for supporting the combustion of their lamps, the Gutta Percha Company have forwarded us a specimen of their manufacture, admirably adapted for the purpose, and which may be inspected at our office. The specimen under notice is 1¼ inches in diameter, and, from its impermeability to damp or wet, its resistance of acids, and its flexibility, should such description of ventilation be ever brought into practice, it appears to us such tube is most decidedly applicable to the purpose. These tubes may be had of many sizes, up to 6 in. diameter, and smaller ones would be highly useful, for enabling the colliers to give notice of any threatened accident to the surface, by using them as speaking telegraphs, on the principle of Whishaw's "telekouphonon." The specimen may be seen at our office.

GUTTA PERCHA TUBING.—A coil of tubing, 940 feet in length, has just been manufactured, by the Gutta Percha Company, for a gentleman in Warwickshire, to convey the supply of water from the park reservoirs to his mansion.

MINERALOGICAL DESCRIPTION OF THE ISLAND OF BANCA.

The island of Banca, situated in the Indian Archipelago, has, for the last century, been of much importance, from the quantity and quality of its tin supplied to the markets of Europe and India; and a description of its mineralogy must not only prove interesting to parties connected with mining pursuits, but, in the explorations of other countries and islands, a knowledge of the accompanying geological formation may lead to the discovery of similar metallic deposits. Thomas Horsfield, Esq., M.D., has published, in the *Journal of the Indian Archipelago*, for December last, the result of his observations during a tour across the island. After remarking on many of the less considerable hills in the vicinity of the mines, he examined the *Manumbing*, taking the eastward road towards the hill *Kukus*. Beyond Minto, the ascent is very gradual; and, about two miles from the shore, he observed granite rocks on the surface, in which the felspar enters largely into their composition, and the mica very sparingly. Some masses contain large quantities of schorl in small laminæ, or crystals, collected together in irregular groups. Many of the granite rocks of the district are very loose in their texture, and disintegrate with a very small force. Between the elevated parts of the Manumbing, and the lower ridges, which bound the sea, a tract intervenes, which is stratified, and has the same constitution as the mining districts in other parts of the island. This tract surrounds the mountain as a belt of unequal breadth; commencing in the east at the extremity of Kukus, it contains the mines of Beloo, now exhausted, but which formerly supplied large quantities of metal. Proceeding westward, it follows the mines of Rangam, Sungie Teluk Robiya, Singie Babi, and Sungie Deyng; it then winds round the western extremity of the hill Dulang Pitsha, and, inclosing the environs of Mendshelang, Reary Beat, and Andshill, takes an eastern direction, and follows the confines of the mountain in the north to its termination. The beds of tin ore extend at several points into the ocean; and the primitive rocks pierce the alluvial hill in various places, demonstrating very clearly their conjunction with the veins of red ironstone, breccia, &c. The stratification of the mines of Rángám consists of alternate layers of sand; differently coloured by intervening clay. The black substance, which almost universally exists in masses, was very abundant; and the constitution of the matrix containing the ore was explained by the substances remaining at the aqueducts—viz.: imperfect granite, consisting exclusively of quartz and schorl; the same with some felspar in a decomposed state; perfect granite in a state of decomposition; irregular masses of pure quartz; pure quartz crystallised; variegated mixtures of quartz and felspar; felspar in small masses, rounded by attrition; masses of pure felspar, spongy from decomposition; compact sandstone, intersected by white siliceous veins.

Between the rivers of Sungie-Báru and Teluk Robiya, he met with the commencement of a most extensive deposit of iron ore; it composes a length of several hundred yards of the extremity of the hill, which is washed by the ocean at high tide; it varies from 20 to 30 ft. in height, and is but partially covered with soil; the ore is chiefly in laminæ and nodules, colour black, inclining to grey or bluish, and the surface is maculated with yellow ochreous spots. The disposition to form regular nodules is evident in many of the fragments of the lower plain, and some of the superior layers must be considered as bog-iron ore. This compound district of iron ores and breccias is intersected by a branch of the stratum of tin ore following the course of the Teluk Robiya; quantities of ore have been carried down the river by the current, and being mixed with the sand along the shore, has been gathered by the natives. The last point of the large depository of iron ore visited, was on the summit of the alluvial ridge to the north of Minto. It consists of an immense accumulation of argillaceous iron ore, uniformly of that kind called nodular ironstone. A ditch had been cut 10 feet deep, extending exclusively through the same bed; the nodules have a uniform tendency towards a polyhedrous figure, and, in many cases, the sides are completely regular and defined; when broken they exhibit an extensive cavity; the sides consist of several concentric layers of different colours; the interior is vitreous, glossy, and covered with a grey powder. The sides of the hills extending through this tract are mostly covered with soil and sand, through which the veins of rock occasionally project. One of these rocks consisted of small fragments of quartz, cemented by ironstone, which appeared uniformly variegated on the fracture; and another similar vein occurred 100 yards westward, in which the same general mass contained large fragments of red ironstone and yellow ochre. In a third the fracture is still more variegated; large masses of quartz are bedded in the ferruginous cement, and many of the fragments of red ironstone are regularly striped.

CALIFORNIA—LATEST FROM THE GOLD REGION.

The last advices from Mexico are to the 19th of March. They state that Colonel Fremont's expedition overland to California had failed, and, after enduring much hardship, were compelled to return to Taoi. The latest accounts from the gold regions are dated San Francisco, February 7. From San Francisco, on the 23rd of January, Captain Folson writes as follows:—

"Since my last private communication nothing has occurred to change the general views I then expressed in relation to California. Within the last few weeks much has been said and done in regard to the organization of a provisional Government for this territory. Several villages have appointed delegates to attend a convention for the arrangement of fundamental laws for the country, and other elections are now understood to be taking place in the remote parts of the country. The only tribunals which have attempted any jurisdiction in cases of murder, &c., some months past, are those formed for the occasion as it rises, and offenders generally escape, or, if they are taken, it is amidst the frenzy of popular excitement, where the guilty and innocent may be victims together. Several executions have taken place in pursuance of this kind of law. In the meantime, outrages are occurring in all quarters of the country, and the public excitement has scarcely subsided after one murder has transpired, before another is committed more horrible than the first. House-breaking, thefts, and robberies, are of almost hourly occurrence. Within the last five or six weeks we have had weather of extraordinary severity. It is said to be the coldest season experienced here since that of 1823-4. In the gold mines the snow has been four feet deep, and at Sutter's Fort ice has formed three inches in thickness. Very heavy and protracted falls of rain have now swept off the snow from all the hills within sight; but high in the mountains, among the mines, it is thought that they have had nothing but snow. If so, it must have fallen to a very unusual depth. We now have cool winds and occasional rains, but the severity of the latter, it is believed, is now past. As a general thing, the operations among the mines were suspended on the approach of winter; but large numbers of persons built log-houses in the mountains, and having laid in a winter's stock of provisions, continued among the mines for the prosecution of their business. It is now understoood that the extraordinary severity of the weather has prevented them from effecting much, and there can be no doubt that much suffering will be the result. Those who are now in the mountains are almost exclusively Indians (indigenous population) and foreigners, or emigrants. I believe the steamers, *via* Panama, will afford a more certain, expeditious, and comfortable way of reaching California than any other; and for emigrants in the eastern, middle, and southern States it will probably be the cheapest. Where families are coming with the intention of remaining in the country, I believe the voyage round Cape Horn is preferable in all respects to a journey across the mountains."

The ship, *Tzar*, has arrived at Boston with $70,000 in Californian gold; and it is said by passengers in the steamer, *Isthmus*, at New Orleans, that $4,000,000 were actually *en route*, on board a United States ship of war. But this is probably an exaggeration. About 1800 persons were on the Isthmus, or at the town of Panama, awaiting the departure of vessels for the gold region. In one report it stated that the United States storeship, *Lexington*, had arrived at Valparaiso from California, with $400,000 on board. This is probably the amount which has been swollen by rumour into $4,000.000. About 20,000 emigrants in all have quitted the United States for California, and nearly as many more are expected to leave. A new trail has been successfully travelled from Matamoras on the Rio Grande, to Mazatlan on the Pacific, said to be the very best route, both by land and sea, as regards climate and all other facilities. One fact is clear, namely, that no great quantity of gold from California has yet reached the United States!

The *New York Herald*, not the most trustworthy authority on the subject of the gold region, states that the British ship of war, *Calypso*, was at Mazatlan, to leave soon for England. She was to take away over $2,000,000 in specie. Of this there were over 5000 ozs. of Californian gold, and of this 1000 ozs. belonged to Mr. Suwerkrop, the Danish consul, who placed it on board the *Calypso*, for want of a direct means of conveyance to the United States. The same authority states that $4,000,000 in gold had been obtained from the mines.

Dr. Buckland, as Reader in Mineralogy at the University of Oxford, will commence a course of lectures on the elements of the mineral kingdom, and their adaptation to the uses of the animal and vegetable kingdoms, and of mankind, at the Clarendon, this day (Saturday). These lectures, which will be continued on Tuesdays, Thursdays, and Saturdays, in Easter and Act terms, are introductory to a course on geology in October term next. The collection in the Clarendon is open to members of the University, and all persons introduced by them.

IMPROVEMENTS IN BRIDGES, GIRDERS, AND BEAMS.

A patent has been obtained by Mr. Charles De Bergue, Arthur-street West, engineer, the improvements sought to be secured by which consist—1. Of a peculiar mode of constructing compound tension bars or rods, which are intended to take the place of chains in suspension bridges.—2. Of a mode of constructing girders, beams, and bridges. A girder bridge is described by the patentee, in which the compression rod is represented as composed of a series of tubes of different diameters, cast with flanges accurately fitted, whereby they may be bolted together into a curvilinear line, the curve of which may be varied according to circumstances. The end tubes are made with projecting ribs, to which flanges are attached, and thereby supported against suitable abutments of masonry. The tension rod is composed of iron or steel plates, rivetted together, or to an iron plate, and made to abut against the lower ends of the struts which are attached by angle irons to the edges of two or more transverse iron plates, rivetted together, and bolted to and in between the flanges of the tubes, while the top ends of the struts are bent over the joints of the tubes. Tie rods are fastened to the lower ends of the struts, and to bolts in the compression rods, the ends of which are slightly eccentric and squared, so that they may be laid hold of and partially turned round by spanners, and the structure tightened. The roadway is connected to the sides by cross beams, reaching from strut to strut, composed of iron plates rivetted together, and strengthened by angle iron.

Instead of metal tubes, timber beams may be used, and so arranged in pairs, as to exhibit only one joint in a transverse section through any part of it. The struts and tie rods are supported at suitable distances by a series of plates, consisting of three each, which are bolted to the two outsides and in between the beams. The inside plate in each series is made longer than the other two, and takes into slots in the transverse metal plates to which it is attached by rivets and angle iron. The tension bars are composed of a number of parallel steel plates bolted together and to a number of iron plates rendered continous by lap pieces rivetted over their joints. The steel plates are arranged so as to break joint, and the iron plates are made with slots, up through which pass T or saddle pieces, that rest upon the tension rod, and have the vertical supporting rods connected to their lower extremities by double joints. The tension rod may have the iron plate cast with hollow spaces and semicircular lateral projections at those parts where the steel plates are rivetted to its underside; or the steel plates may be united to pieces of angle iron bolted to each side of the iron plate. Or the iron plate may be made with a cross piece at bottom in the shape of ⊥ to which the steel plates are riveted.

Claims.—1. The application of tension bars consisting of plates of iron or steel, or wrought iron and steel, riveted together, to and for the purposes before described.

2. The general arrangement of parts before described when applied to the construction of bridges, girders, and beams.—*Mechanics' Magazine.*

A LIQUID GLUE.—In the year 1844, in some particular work I had to superintend, I was struck with the necessity of a liquid glue, waterproof, not requiring the application of heat. In considering the matter, I thought that *shellac*, dissolved in spirits of wine, would answer the purpose. Spirits of wine being dear, I looked for a cheap substitute, and found wood-naptha answer admirably. Wood-naptha is the pyroxalic spirit of the chemists, and the naptha of the oil and colour shops. I tried various combinations. I made it nearly white with bleached shellac, inodorous with spirit of wine; but the cheapest and best was made in the following propôrtions:—¼ lb. avoirdupois of shellac, dissolved in 8 ozs. of apothecaries' measure of naptha; put the shellac into a wide-mouthed bottle and pour the naptha upon it; cork it up, and stir it with a piece of wire two or three times during the first 36 hours. It can be made without any measurement at all, by adding shellac to naptha until it becomes of the consistence of cream. When the shellac is thoroughly dissolved in naptha it forms a liquid glue always ready for use, and peculiarly applicable to the pattern-maker, joiner, or carpenter, and perfectly waterproof, with which the longest joint may be rubbed close. An exalted personage has, I understand, through the medium of a society, offered a prize for a cement for broken china; but, as its rewards are as often given injudiciously as judiciously, I prefer publishing what I have found to answer well, to trying for one of their prizes. Four years ago I broke a favourite sugar-basin. I glued the edges with my liquid glue, and then smeared them over with some white lead, pressed the pieces together, and drew them apart till the application became stringy. It took a month to become fit for use, that is to say, before it could be safely washed with boiling water; ever since then it has been in daily use, and washed up with the other tea-things.—*The Architect.*

GRAND SURREY CANAL DOCK COMPANY.—The annual general meeting of this company was held on Tuesday last, at their offices, St. Helen's-place, Bishopsgate-street.—Mr. J. WILSON in the chair—when the report of the directors, and the statement of accounts for the past year were laid before the proprietors. The report stated that there had been a diminution in the general business of the dock and canal during the past year; and that a further reduction in the canal dues was also anticipated, from the approaching opening of the Thames Junction Branch Railway. The necessary repairs for the current year were estimated at 1400*l.*; the cash balance in the bankers' hands amounts to 1440*l.* 1s. 6d. The cost of work ordered by the proprietors at the last meeting, but not yet performed, amounted to 1520*l.*, which, together with 1000*l.* recommended to be carried to the building fund, and 1400*l.* required for the repairs, specified as above referred to, left a balance of 3906*l.* 4s. 11d. available for dividend. Resolutions, adopting the report and accounts, declaring a dividend of 2*l.* per share for the past year, and confirming the appointment of Mr. Ball as secretary, in the place of Mr. Samuel Travers, deceased, were then passed; and the meeting separated.

CORNISH STEAM-ENGINES.

The number of pumping-engines reported for the month of March is 24—the quantity of coals consumed being 2142 tons, lifting, in the aggregate, 20,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 54,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.—The following have exceeded the average:—

Mines.	Engines.	Length of stroke	Load in pounds.	Load per sq. inch. on pist.	Strokes per min.	Consump. of coal in bus.	Million lbs. lifted 1 foot by consump. of 1 bush. coal	Lifted 1ft. by 1 cwt. of coal.
Great Work ..	Leeds's 60-in.	9·0	41,820	11·5	10·1	2108	56·7	68
East W. Crofty	Trevenson's 80	10·33	82,333	12·2	6·0	2726	57·1	68
Carn Brea....	Sims' 50 & 90-in	9·0	31,125	20·2	5·3	1200	64·4	77
Poldice.....	85-inch.....	10·0	77,545	9·5	9·6	3912	54·1	64
South Frances	75-inch.....	11·0	35,419	6·5	6·7	1580	55·0	66
United Mines	Taylor's 85-in.	11·0	97,621	15·6	6·4	3254	78·0	93
Ditto	Cardoza's 90-in.	9·0	100,682	13·8	7·8	4294	58·6	70
Ditto	Eldon's 30-inch	9·0	13,631	16·0	8·2	516	66·3	79
Ditto	Loam's 85-inch	10·0	87,947	11·6	8·1	3980	54·5	65
Ditto	Hocking's 85-in	10·0	97,817	14·4	7·6	4376	58·4	70
Tywarnhayle..	Gardiner's 80in.	10·0	72,382	11·5	6·9	2616	60·2	72
East Wh. Rose	Penrose, 70-in.	10·0	67,783	15·8	4·1	1486	66·9	80
Ditto	Michell's 70-in.	10·0	67,967	15·9	3·9	1352	69·6	83

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Chester Main 15—Holywell Main 15 6—North Percy Hartley 15—Ord's Redheugh 14 6—Stewart's Hartley 14—Tanfield Moor 14 6—Walker's Primrose 13 6—West Hartley 16 6—Wall's End Acorn Close 17—Framwellgate 17—Gibson 16—Hebburn 16—Hedley 16—Hilda 16—Percy Bensham 15 6—Washington 16—Walker 16—Lambton Primrose 17 9—Braddyll's Hetton 18 6—Bell 17—Hetton 19—Haswell 19 3 to 19 6—Jonassohn's 16—Lambton 18 6—Lumley Steam 13 6—Lyons 17 9—Stewart's 19—Shotton 17 6—Caradoc 17 6—Cassop 17 6—Hartlepool 19—Hudson's Hartlepool 16 6—Heugh Hall 17—Kelloe 18 6—South Hartlepool 17—Thornley 17 6—Whitworth 15—Bishop's Tees 17 6—Tees 18 9—West Cornforth 17—West Hetton 17 6—Nixon's Merthyr 21—Whitworth Coke 21.—Ships at market, 195; sold, 115.

WEDNESDAY.—Bate's West Hartley 14—Buddle's West Hartley 15—Carr's Hartley 15—Chester Main 15—East Adair's Main 13—Hasting's Hartley 15—Holywell Main 15—New Tanfield 13 6—North Percy Hartley 14—Original Tanfield 12 6—Ord's Redheugh 14—Tanfield Moor 14 6—West Hartley 15—Wylam 14—Wall's End Acorn Close 16—Bewicke and Co. 16 3—Hotspur 15—Harton 16—Northumberland 15—Percy Bensham 15—Riddell's 16—Walker 16—Eden Main 17 3—Lambton Primrose 17—Belmont 17 3—Braddyll's Hetton 18—Bell 16 6—Hetton 18 6—Haswell 19—Hutton 17 6—Lambton 18—Lyons 17 3—Morrison 15 6—Russell's Hetton 18—Stewart's 18 6—Shotton 17—Whitwell 16 6—Caradoc 17—Cassop 17—Hartlepool 18 6—Hudson's Hartlepool 16 6—Kelloe 17 6—South Hartlepool 17—Whitworth 14—Adelaide Tees 17 9—Bishop's Tees 17 3—Denison 16—Seymour Tees 16 6—Tees 18 3—Cowpen Hartley 15 3—Hartley 14 3—Howard's West Hartley Netherton 15 3.—Ships at market, 260; sold, 146.

FRIDAY.—Bate's West Hartley 14 6—Buddle's West Hartley 15—Carr's Hartley 15—Adair's Main 13—Hasting's Hartley 15—Holywell Main 15—New Tanfield 13—North Percy Hartley 14—Original Tanfield 12 6—Ord's Redheugh 13 9—Ravensworth's West Hartley 14—Walker's Primrose 13—West Hartley 15—Wall's End Bewicke and Co. 16 3—Framwellgate 16—Gosforth 16 3—Gibson 15 6—Hebburn 15 6—Hilda 15 6—Heaton 16 3—Hedley 15 9—Harton 15 9—Killingworth 15 6—Percy Bensham 15—Washington 15 6—Wharncliffe 16—Eden Main 17 9—Lambton Primrose 17 6—Belmont 17 3—Braddyll's Hetton 18 6—Bell 16 6—Hetton 19—Haswell 20—Hutton 17 6—Lambton 18 6—Lyons 17 6—Morrison 15 9—Russell's Hetton 18 6—Shotton 17 3—Caradoc 17 6—Heugh Hall 16 6—Kelloe 18—South Kelloe 16 3—Bishop's Tees 17 3—Denison 16—Seymour Tees 16 6—South Durham 16—Tees 18 9—West Hetton 16 6—Cowpen Hartley 15 3—Hartley 14 6—Llangennech 22 6—Parson's Graigola 21—Sidney's Hartley 15—Whitworth Coke 20.—Ships at market, 163; sold, 113.

THAMES TUNNEL COMPANY

The number of passengers who passed through the Tunnel in the week ending April 14, was—No. of passengers, 20,153.—Amount of money, £83 19s. 4d.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver coin to Hamburgh, 3449 ounces; ditto to Calais, 120,000; ditto to Belgium, 24,599; ditto to Rotterdam, 9000—Silver bars to Hamburgh, 25,420.

CURRENT PRICE OF GOLD AND SILVER

Foreign gold, in bars .... per oz.	£3 17 9	New dollars ..... per oz.	£0 4 10½
„ Portugal pieces....	0 0 0	Silver in bars (standard)	0 4 11½

NATIONAL PROVINCIAL BANK OF ENGLAND,

112, Bishopsgate-street, London, April 11, 1849.—The directors of the NATIONAL PROVINCIAL BANK OF ENGLAND hereby give Notice, that the ANNUAL GENERAL MEETING of the proprietors of the society will be HELD on Thursday, the 10th day of May next, at the hour of Twelve precisely, at the company's house, 112, Bishopsgate-street, in the city of London. By order of the court of directors,

DAN. ROBERTSON, Agent and Manager.

The chair will be taken at Twelve o'clock precisely—not Twelve for One o'clock. 47

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular

MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 20th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA—On the 20th and 29th of every month. CONSTANTINOPLE—On the 29th of the month. ALEXANDRIA—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages and ship cargo, apply at the company's offices, No. 122, Leadenhall-street, London; and 57, High-street, Southampton. 48

OVERLAND GOODS AND PARCELS FOR INDIA, ADEN,

CEYLON, MADRAS, CALCUTTA, SINGAPORE, CHINA, and BOMBAY, should be DELIVERED not later than noon on the 17th of each month; and if forwarded on the 18th, will be subject to an extra charge.

When the 18th falls on a Sunday, no package will be received after the 17th, and cases must not exceed 70 lbs. in weight, and when measuring over one cubic foot, they must be strong, and well hooped at the ends.

Peninsular and Oriental Steam Navigation Company's Offices,
122, Leadenhall-street, London, Feb. 23, 1849. 49

STRUVE'S PATENT MINE VENTILATOR.

TO COLLIERY PROPRIETORS.

Quantity of air passed through a Mine almost unlimited, to the extent of 200,000 cubic feet if necessary—depending on size of apparatus.

No injury to pumps, tubbing, chains, ropes, or pitwork.

Goaves kept clear. 50

Not influenced by barometrical and thermometrical changes in the atmosphere, or by wind.

Current of air undeviating.

LICENSES will be GRANTED on application to

Mr. WILLIAM PRICE STRUVE, C.E., Swansea.

The ventilator has been erected at the Eaglesbush Colliery, near Neath, and is perfectly efficient, and may be viewed on application to the proprietors, Messrs. Penrose and Evans, Neath.

RIDER'S RAILWAY BRIDGE.

—This BRIDGE, BUILT wholly of IRON, will be ERECTED by the PATENTEE on the following terms:—

A BRIDGE, of 150 span, for a double track railway, broad gauge—Price £2000.

A BRIDGE, of 100 feet span, same dimensions—Price £1000. 51

These prices are exclusive of abutments or piers.

ROADWAY BRIDGES at a reduction on cost of from one-half to two-thirds.

Apply to Mr. S. MOULTON, Patentee, Bradford, Wilts, or to Mr. Howard Jacobson, Suffolk-lane, Thames-street, London.

CUNNINGHAM AND CARTER'S NEW SYSTEM OF

RAILWAY PROPULSION.—Railway Directors, Engineers, and the public generally, are invited to examine this system, which may be VIEWED on Mondays, Wednesdays, and Saturdays, from half-past Eleven to Three o'clock, at Ingram's Manufactory, 29, CITY-ROAD, near Finsbury-square.

The following is an estimate of the daily expense of working a double line of 50 miles long, during a period of 10 hours, with trains starting from each terminus every half hour—six trains always running on the line:—

Coals for five stationary engines, of 100-horse power each, at 5 lbs. per horse-power per hour each (say, 11 tons, at 14s. per ton)			£7 14	0
Wages—Enginemen, with relief,	10 at 6s.	£3 0 0		
,, Stokers	ditto 10 at 4s.	2 0 0		
,, Cleaners	ditto 10 at 2s. 6d.	1 5 0		
,, Drivers	ditto 12 at 5s.	3 0 0		
,, Guards	ditto 12 at 5s.	3 0 0		
,, Twenty men stationed on the line, 3s.		3 0 0	=15 5	0
Repairs of engines, with depreciation, &c., at £200 per annum, each ×5=1000l. per annum—daily proportion			2 15	0
Contingencies			4 6	0
Total			£30 0	0

Forty trains, at 15s. per train=£30, being a fraction over 3¼d. per train per mile, independent of a saving of one-third of the present expense in the maintenance of way. 52

THE STEAM-ENGINE—W. BROTHERTON & CO. beg

to CALL the ATTENTION of ALL PARTIES EMPLOYING STEAM-POWER to their PATENT PURIFIED OIL for the ECONOMICAL WORKING of the STEAM-ENGINE and other MACHINERY.

The adoption of its use effects a saving of 25 per cent. on the quantity required for lubrication over any other oil; and its properties are such as to greatly preserve the bearings of machinery in general. A trial will prove the fact.

W. BROTHERTON & CO., 53

PATENT OIL FACTORY, HUNGERFORD WHARF, CHARING-CROSS, LONDON.

ECONOMICAL STEAM-ENGINE—Surpassing the Cornish.

CRADDOCK'S PATENT DOUBLE CYLINDER HIGH-PRESSURE EXPANSIVE AND CONDENSING ENGINE,

Alike ADAPTED FOR MARINE, LOCOMOTIVE, AND STATIONARY PURPOSES.

BOILER.—Tubular, free from deposit, and perfectly safe from explosion.

ENGINE.—Not half the weight or bulk of ordinary engines.

FUEL.—Not half that required by the best engines of the common kind. 54

WATER.—Under one gallon per horse-power per day of 10 hours, for all purposes, with air as the medium of condensation.

These engines are erected at a comparatively trifling expense, and are easily worked.

FOR SALE.

TWO 40-horse power ENGINES, suited to condense either by air or water.			
ONE 25-horse power	ditto	ditto	ditto
TWO 20-horse power	ditto	ditto	ditto
ONE 14-horse power	ditto	ditto	ditto

A PAIR of OSCILLATING MARINE ENGINES, of 10-horse power.

PRICE.—£30 per horse-power.

These engines are quite new, with boiler, condenser, and regulating damper—all got up in the best and simplest manner. They are much simpler, and almost beyond comparison more compact than the Cornish engine, also more safe and economical than even those engines, yet the price of the Cornish is nearly double that at which these are offered.—Parties wanting engines will find in the above good bargains.

Apply to Thomas Craddock and Co., engineers, 36 and 38, Broad-street, Birmingham, where engines on the above principle may be seen at work.

Also ON SALE, THREE 4-horse HIGH-PRESSURE ENGINES, simply arranged, and well got up.—Price €12 per horse-power.

CWMBRAIN PATENT IRON REFINERY.—The

PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a

NEW PATENT PROCESS,

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scrape, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:— 55

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire

IMPORTANT TO MINE OWNERS, &c.

GUTTA PERCHA COMPANY—PATENTEES,

CITY-ROAD, LONDON.

The GUTTA PERCHA COMPANY beg to bring under the notice of Mine Owners, Manufacturers, &c., the GREAT SAVING, both of time and expense, which is effected by the use of the GUTTA PERCHA PUMP BUCKETS and VALVES. These Buckets may be had of any size or thickness, *without any seam or raised joint.* They are unaffected by acids, alkalies, &c. Cold water will never soften them, and they are, consequently, much more durable than leather, and also cheaper. The most gratifying testimonials have been received from millowners, who have had these Buckets in operation for several months past, without the slightest repairs being required. 56

GUTTA PERCHA TUBING

Being so remarkable a CONDUCTOR of SOUND, is now being extensively applied for CONVEYING MESSAGES from ONE BUILDING, or PLACE, to ANOTHER. If a Tubing of this material, 1 inch diameter, be carried from the mouth of a mine, or pit, down the shaft, to various parts of the mine (no matter whether a quarter or half a mile distant), an instant communication may be established by means of the whistle, on Whishaw's principle, and a conversation carried on as distinctly as though the parties were but a few feet from each other. When these Tubes are in general use, they will greatly lessen the *loss of life in mines.*

GUTTA PERCHA DRIVING BANDS

Continue to secure a continually increasing demand; they can be had of any size or length. Their durability and strength, permanent contractility and uniformity of substance, their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water, and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior for almost all working purposes, and decidedly economical.

GUTTA PERCHA Soles for Boots and Shoes, Bowls, Buckets, Picture Frames, Brackets, Mouldings, Surgical Instruments, Vases, Cups, Inkstands, Balls, &c., may be had at the Company's Works, Wharf-road, City-road, London, or of any of their wholesale dealers in town or country.

TEXAN AND SONORA GOLD MINING AND LOCATION COMPANY.

Capital £200,000, in 20,000 shares, of £10 each.—Deposit 1s., pursuant to 7 and 8 Vic., cap. 110.—Call £3 per share.

DIRECTORS.

GEORGE CATLIN, Esq., Waterloo-place.
HENRY HAYWARD, Esq., Chandos-street, Cavendish-square.
ARTHUR IKIN, Esq., Fulham, late Consul-General for Texas.
JOHN ROUTH, Esq., Jun., Harewood-square.
FRANCIS SALTONSTALL, Esq., North Bank, Regent's-park. 57

AUDITORS.

G. D. Moffatt, Esq., Cheapside; W. Bovill Burrowes, Esq., St. Ann's-road, Notting-hill

SOLICITOR.

Thomas Marston, Esq., Carey-street, Lincoln's Inn.

SECRETARY—Mr. Robert Hooper.

TEMPORARY OFFICES OF THE COMPANY, 57, THREADNEEDLE-STREET.

PROSPECTUS.

The rush of emigrants from all parts of the world to California, will soon create a state of society there, not desirable to men of quiet dispositions, and especially to those having families. The immense deposits of gold will not afford sufficient inducements to countervail the evils which must result from the heterogenious and lawless character of the population. The benefits, moreover, to be derived in California, now open to all, cannot be expected to last any longer than it will require the United States Government to take military possession of the country, when the lands, which mostly belong to the Government, will be sold or leased, at rates corresponding with the extent of competition, which it is reasonable to expect, will then be immense. The great distance of California from this country, and the expense, uncertainty, and risk, which would be likely to attend any enterprise to that region, have led to the enquiry whether there may not be mines of equal value much more accessible, the ownership of which might be obtained upon discovery, and which could be worked at less expense for supplies of provisions, and with greater facilities of market for the mineral.

Such mines are known to exist in the Province of Sonora, and it is confidently believed that they exist also in the territory of New Mexico, and in the western part of Texas, which is immediately adjacent to the latter district. The reasons for this conviction are:—

1. That the geological formation of the mountains extending into the western part of Texas, is of the same character with that of the mountains in Mexico, which are most rich in the precious metals; and with the Sierra Nevada mountains of California, from which the gold has been washed down into the valleys of the Sacramento and San Joachim rivers.

2. The Mexican records and monuments furnish another evidence of the existence of valuable mines in Texas, especially in the valley of the Puerco. These records represent the Rio Puerco as being rich in the precious metals; and the ruins of an ancient city in that region, which must have been founded soon after the conquest of Mexico, form a lasting and significant monument of its mineral wealth. As it is well known that the Spaniards, in those days, made but few settlements in districts destitute of the precious metals, there is little doubt but that the sole object in building this city was to procure the gold and silver, which a tradition, still current among the Mexicans, represents were obtained to the amount of several millions of pounds, previous to the terrible insurrection of the Indians in 1680. In other places crow-bars and crucibles have been found by parties of Texans in their exploring expeditions.

3. The traditions among the Indians corroborate the testimony of the Mexicans. They state that gold and silver were formerly found in large quantities east of the Rio Grande, and there are many now living who say they can point out districts where these metals can be procured, and actually exhibit ornaments on their persons which they say were obtained by them from these very localities.

4. Recent discoveries have shown that gold mines exist in the neighbourhood of Santa Fé to a greater extent than has heretofore been supposed, although this region has been known for a long time to be rich in mines, many of which have been worked for a number of years. Specimens of fine gold have also been found near the head waters of the San Saba, a branch of the Colorado River, of Texas, where there is a range of country abounding in quartz.

In addition to the gold mines, which are supposed to exist in some portions of Western Texas, of a very productive character, lead ore has been discovered, said to be equal in value to that of the galena mines of Illinois and Missouri. Copper has also been discovered near the head waters of the Brassos, of great purity; and it is well known that, under the Government of Spain, silver mines were wrought near the San Saba, and much confidence has been expressed that in that region silver is abundant. Most of the country within the limits of Texas, which is supposed to abound in mineral wealth, has, since the first occupation by the Spaniards, and their expulsion by the Indians, been exclusively in possession of the latter. Since the late Mexican war, however, the Indians have retired before the enterprising white settlers, who are pushing their settlements into those regions, and opening a safe ingress for those who wish to explore the country. A new route to California has recently been opened by a detachment of United States troops, on their march from Houston to that country, and it is now recommended as the most eligible route for the numerous emigrants who are removing to the valley of the Sacramento.

If the mines in Western Texas, New Mexico, and in Sonora, on the eastern range of the Rocky Mountains, prove, on exploitation, as rich as those in California, on the western range, which there can be no good reason to doubt may be the case, there will be manifold advantages in the eastern locality—three of which need only be mentioned. The first is the facility of obtaining supplies of provisions from an adjoining district well settled with agriculturists, and the vicinity to ports where trade and commerce are conducted under proper regulations. The second is the superior salubrity of the eastern locality over the western—the experience of the miners in California having proved that labour must there be suspended during a considerable portion of the year, on account of the fevers which prevail at certain seasons; and the third is, the certainty of being able to secure the title to lands containing valuable minerals through claims either located or floating in the hands of individuals, citizens of Texas, who have obtained them direct either from the Mexican or Texan Government.

TEXAS.—The unappropriated public lands in Texas do not belong to the United States Government, but are held by the State of Texas as a fund for the payment of the public debt, for the establishment of public schools, and for the internal improvement of the country. These lands are not at present for sale, and cannot, for a long time, be placed upon the market. In the meantime, the ownership of certain portions of these lands, now held by private individuals or companies, may be secured by procuring the floating claims heretofore granted to certain citizens of Texas by the Mexican and Texan Governments.

The purchase of such claims for 60,000 acres (which are convertible at will into patents for land in fee-simple) has been effected from a gentleman of the highest respectability, a resident of Texas, who is now in London; as also for the same quantity (60,000 acres) of located lands, well-selected and advantageously situated for agricultural purposes, in Milam County, between the rivers Colorado and Brassos, about 80 miles north-east of Austin, the seat of the Government of the State. The lands are undulating, and consist of prairie (meadows) and timber interspersed, of fertile quality and well watered. Austin is only 80 miles from Houston, which latter place is reached by steam vessels in eight hours from Galveston Bay, Gulf of Mexico.

SONORA.—Application will be made to the Mexican Government for a grant of land, on royalty or purchase, in the province of Sonora, so as to enable the company to extend their works hereafter to this valuable locality, where, from time immemorial, according to common report and tradition, it is stated that the richest gold deposits in the world exist, but which, until of recent years, have been almost inaccessible, in consequence of the hostility of the Indians.

CALIFORNIA.—Should it be found desirable to extend the mining operations hereafter to California, when that country shall be settled under a regular Government, the company will be prepared to avail itself of such favourable grants of mining localities, as may then be obtained from the Government of the United States, which has not yet the power to grant charters or other privileges, and would enjoy the superior advantage o their own settlements, already formed on the most direct and shortest route to California.

OBJECTS OF THE COMPANY.—The company is formed for the more energetic and beneficial carrying out of the advantages which the purchases do, and grants may, place at the disposal of the shareholders.

Before any locations are finally determined on with respect to the land scrip of 60,000 acres, it is proposed to examine the mineral districts of the State of Texas, and then to select the most advantageous positions for the full development of metallurgical operations. The company, therefore, intend, in the first instance, to send out a practical geologist, accompanied by an experienced mining captain, and a small body of miners, who, with some natives, shall examine and report on the different districts; and the gentleman from whom the land scrip is purchased has consented to meet the corps at Houston, and render all the assistance which his high position and character in Texas command. The company has likewise secured the active co-operation of an American gentleman, who is well known to the public in this country, as well as on the continent and in the United States, and who has consented to accompany the first party to Texas.

It is proposed to make use of his long knowledge of the Indian character, and of his influence with the native chiefs, to explore the localities from which they have collected the gold and silver with which they are in the habit of adorning their persons, and also of making such arrangements for trading with them as may be found desirable for carrying out the objects of the company. It is a well-known fact, that no person can trade with the native tribes without permission of the Government of the United States; and it is important, therefore, to mention that this company hold a Charter from the Government for this special purpose.

With reference to the located territory of 60,000 acres, it is proposed to make over to the shareholders the fee-simple deeds for such portions as they may subscribe for, to be subsequently divided into lots of not less than 40 acres.

Accompanying the mining detachment, or shortly afterwards, it is intended that a body of emigrants, with all the materials for successful colonization, shall proceed to lay the foundation of the first agricultural settlement, on a large scale, to be followed by other detachments of settlers in succession. Thus, agriculture and mining may be successfully cultivated in connection, to the signal advantage and profit of each branch of this great enterprize, in a country governed by good laws, a soil most productive, and a climate congenial to the full exercise of the powers of labouring man. "The greater proportion of this beautiful region," says Kennedy, "which has obtained for Texas the name of the Italy of America, is blessed with a temperature, delightful to the senses, and favourable to life, and to most of the products that render life agreeable." The population of Texas is now above 200,000, and is rapidly increasing, in consequence of emigration from the older States of the American Union, as well as from Europe.

The same laws exist in Texas for the protection of personal liberty, as prevail in England, while all religious creeds are free; each congregation supporting its own minister and place of worship.

A glance at a map will show how well the before-mentioned territories are situated with respect to rapid and easy intercourse with this country, that it is the direct road to California, and that while five or six months are occupied in going round Cape Horn to San Francisco, a voyage of six weeks from England will place the passenger on the shores of Texas.

ADVANTAGES TO SHAREHOLDERS.

For the purchase of the located land of 60,000 acres, and the unlocated claims for 60,000 acres—making together 120,000 acres, the company have to pay to the proprietor, in money and shares, at the average rate of only 7s. per acre, thereby leaving a working capital amply sufficient for all purposes.

The unlocated claims will be retained for the benefit generally of the shareholders, but the located tracts will be divided into lots, according to subscriptions. The shareholders, in fact, will receive the deeds of the freehold of their proportion to be then dealt with as the means and views of the purchaser may determine, while he will still retain his share of the profit and benefits to be derived from the mining operations, and the disposal of the unlocated land scrips. The located lands being judiciously selected, even if not brought into cultivation, will, by the increase of population in the surrounding country, infallibly rise in value.

Shareholders who may wish to form settlements upon the located lands, will be recommended to agents at the port of debarkation, who will give all necessary information and advice to enable them to reach their destination by the most direct route; and agents of the company will likewise receive them on the located lands to put them into possession of their freeholds.

When the negociations with the Mexican Government shall be completed, a further issue of shares will be made for carrying on operations in Sonora, and the holders shares in the present undertaking will have priority of subscription at par.

A Deed of Settlement will be prepared for the protection of all parties concerned, in compliance with the Act for the Registration of Joint Stock Companies, in which a clause will be inserted to prevent any other call than the one of £3 per share being made, until the further development of the plans of the company shall render it desirable and advantageous, and then only with the consent of a meeting of shareholders, specially summoned, and representing three-fourths of the whole number of shares.

Applications for shares made be made in the annexed form, addressed to the secretary, at the temporary offices of the company, No. 57, Threadneedle-street, or to the solicitor, Thomas Marston, Esq., 14, Carey-street, Lincoln's Inn, where prospectuses and every information may be obtained.

To the Directors of the Texan and Sonora Gold Mining and Location Company.

GENTLEMEN,—I request you will allot me shares, of £10 each, in the above-named company, on which, or any less number, I undertake to pay both the deposit and call of £3, when required. Dated this day of , 1849.

Name in full .....
Profession (if any) .....
Residence .....
Reference .....

TO ENGINEERS AND BOILER MAKERS.—The

BIRMINGHAM PATENT IRON TUBE COMPANY

MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam and other purposes. All sorts of IRON GAS FITTINGS.

WORKS—Smethwick, near Birmingham.

LONDON WAREHOUSE—No. 6, Upper Thames-street. 58

EMERSON'S PATENT LIQUID CEMENT is ready for use,

is simple in its application, and only ONE-EIGHTH the COST of OIL PAINT; for beauty it is pre-eminent over all other materials used on the fronts of houses—giving the exact appearance of FINE CUT STONE; can be used at once on fresh Roman cement or other plastering; is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be beautified in any weather, at a trifling cost. Sold in casks, of 1, 2, and 3 cwts., at 8s., 15s., and 21s. each.

PATENT MINERAL PAINT. 59

Invaluable as a COATING for SHIPS' SIDES and BOTTOMS, all kinds of WOOD or METAL WORK, roofing felts, leaky roofs, spouts and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay—requires no preparation, and will dry in a few hours.—Sold in casks, 2 to 50 gallons. Brilliant black, 2s.; rich brown, 2s. 9d. per gall.

BELL, LEAR, & CO., 16, Basing-lane, Cheapside.

PATENT ALKALI COMPANY'S METALLIC PAINTS.

COLOURS—BLACK AND PURPLE BROWN.

These paints (the products of a patent process), possess peculiar and valuable properties not otherwise attainable, and are perfectly free from the deleterious qualities of white-lead. They surpass all other paints ever yet discovered in point of DURABILITY and ECONOMY; two coats being more than equal to three of any other description. From their chemical composition, they are pre-eminently adapted for covering IRON; also STUCCOED or BRICK BUILDINGS, and every kind of WOOD WORK. The process by which the base of these paints is produced, makes it impossible that any change should take place in their composition from atmospheric influence. Their identity with iron secures them from galvanic action, so fatal to the durability of lead and other paints on iron work. 60

They have been exposed on SHIPPING to the action of sea water, and of the sulphuretted hydrogen so prevalent in sea ports and tidal harbours, for more than THREE YEARS, without change.

Their CHEAPNESS and STRENGTH render them peculiarly eligible for IRON BRIDGES, ROOFS, and RAILINGS, FARM BUILDINGS, and SHIPPING.

The attention of the SHIPPING INTEREST is particularly directed to the company's patent compound metallic BLACK PAINT (the only metallic black paint of any value in existence), which will be found to act as a most valuable preservative when applied to iron steam-boats, and wooden vessels. It also forms a beautiful covering for STOVES, and is susceptible of a high polish.

Several imitations of the Patent Alkali Company's paint having been sold under the name of IRON PAINT, the directors of the company deem it necessary to caution the public that no other iron paint is genuine, or partakes in any degree whatever of the properties of the company's paints, the base of the latter being obtained solely by a series of processes, which are protected by the company's patents, and to which alone is owing their extraordinary body, or covering power. Numerous and most satisfactory testimonials have been forwarded to the company's offices, copies of which may be had of the secretary or of the agents.

Price, by the ton, £25, delivered in London or Liverpool, exclusive of packages.

To be obtained exclusively on application to the secretary, Mr. J. A. West, at the offices of the company, 20, Fenchurch-street, London; or of any of the undermentioned parties, who are the only agents of the company:—

Messrs. Evans Brothers, London; Messrs. Matthews and Leonard, Bristol; Messrs. Evans and Hodgson, Exeter; Messrs. Clarke and Fill, Yarmouth, Norfolk; Mr. D. Sandeman, Glasgow; Mr. G. Sandeman, Dundee; Mr. R. Newby, Bradford, Yorkshire, Mr. R. S. Farr, Edinburgh; Mr. W. Bailey, Wolverhampton; Messrs. Vint and Co; Newcastle-on-Tyne, and Sunderland; Mr. Robert Oxland, Plymouth; Mr. Joshua Fox, Tregedna, near Falmouth.

DAMP AND GASEOUS EXHALATIONS.

SANATARY MEASURES.

All MEMBERS of BOARDS OF HEALTH are especially DIRECTED to the most EFFECTIVE MEANS which they can ADOPT to PREVENT the injurious and often FATAL EFFECTS upon the HEALTH of the COMMUNITY, arising from exhalations that are produced from moisture, decayed animal matter (as in grave-yards), stagnant water, and collections of fœtid refuse, tending to produce a miasmatic state of atmosphere. In situations so effected, the impervious quality of the ASPHALTE of SEYSSEL renders it the most perfect PAVEMENT or COVERING that can be relied upon for hermetically closing, and thereby preventing the rising of moisture and escape of noxious vapours. The present extensive application of this material for covering roofs, terraces, and arches, for preventing the percolation of wet, is strong evidence of its effectiveness for the above purposes, which is further confirmed by the following extract from the Report of the Commissioners on the Fine Arts:— 61

"In 1835, I superintended the construction of a house of three stories on the Lac d'Enghein. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and interwal walls was covered at the level of the internal ground floor with a layer of SEYSSEL ASPHALTE,* less than half an inch thick, over which coarse sand was spread.

Since the above date, no trace of damp has shown itself round the walls of the lower story, which are for the most part painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ in. above the external surface of the soil, and only 19½ in., at the utmost, above that of the sheet of water.

The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

* This method has been adopted at the new Houses of Parliament.

Seyssel Asphalte Company, Stangate, London. I. FARRELL, Secretary.

NEUBER'S SCENTED LIQUID GLUE, being perfectly

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